Expert Report of
David Lewin, Ph.D

(Nov. 25, 2013)

REDACTED VERSION

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

IN RE HIGH-TECH EMPLOYEE ANTITRUST LITIGATION

MASTER DOCKET NO. 11-CV-2509-LHK

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I. QUALIFICATIONS

1. I am the Neil H. Jacoby Prof. Emeritus of Management, Human Resources and Organizational Behavior in the Anderson Graduate School of Management at the University of California at Los Angeles (UCLA). My curriculum vita is attached hereto as Exhibit 1. My primary area of specialization is human resource management and employment relations. I have published 20 books and more than 150 articles in such journals as *Industrial and Labor Relations Review, Human Resource Management, Industrial Relations, British Journal of Industrial Relations, The Review of Economics and Statistics, Journal of Conflict Resolution, Labor History, Harvard Business Review,* and *California Management Review*. Among my books are *International Perspectives and Challenges in Human Resource Management* (1994), *Human Resource Management: An Economic Approach* (1995), *The Human Resource Management Handbook* (1997), *Contemporary Issues in Employment Relations* (2006), *The Oxford Handbook of Participation in Organizations* (2010), and *Advances in Industrial and Labor Relations*, Volume 20 (2012).

2. I have held National Science Foundation, Ford Foundation, National Institute for Dispute Resolution, Society for Human Resource Management, Human Resource Planning Society, and U.S. Department of Labor research grants. I previously served as President of the University Council on Industrial Relations and Human Resource Programs, member of the Executive Board of the Industrial Relations Research Association, Director of the UCLA Institute of Industrial Relations, Senior Associate Dean for the UCLA Anderson School MBA Program, Co-chair of the UCLA Human Resources Round Table (HARRT), and Co-Chair of Los Angeles Mayor Riordan's Task Force on General Manager Compensation and Performance Evaluation. In 1995, I was elected a Fellow of the National Academy of Human Resources. I am senior

editor of *Advances in Industrial and Labor Relations* and a member of the editorial boards of *Industrial Relations*, *Industrial and Labor Relations Review*, *California Management Review* and *Journal of Change Management*. In 1996 and 1999, respectively, I co-chaired the first and second National Conference on Innovative Teaching in Human Resources and Industrial Relations.

3. I have taught numerous MBA and Ph.D. courses at the Columbia University Graduate School of Business, on whose faculty I served for 20 years, and at the UCLA Anderson School of Management, on whose faculty I served for 23 years. These courses include Human Resource Management; Managing Employee Relations; Managing & Leading Organizations; Leadership Foundations; Regulation of the Employment Relationship; Pay & Rewards in Organizations; and Research Methods.

4. I have consulted widely with business, government and voluntary organizations in the U.S. and abroad. I serve as Faculty Director of the UCLA Anderson School Advanced Program in Human Resource Management, and for many years served as Faculty Director of the Columbia University Graduate School of Business Senior Executive Program. Further, from 2001 to 2009 I served as a Director of K-Swiss, Inc., a member of the K-Swiss Board's Compensation & Stock Options Committee, and a member of the K-Swiss Board's Governance Committee. I am presently a Director of the National Academy of Human Resources, a Director and Head of the Labor & Employment practice at the Berkeley Research Group (BRG), a member of The Conference Board's Evidence-Based Human Resources Advisory Panel, and previously served as a member of the Research Advisory Board of World at Work, Inc. (formerly The American Compensation Association). I also recently completed my term as President of the national Labor and Employment Relations Association (LERA).

5. I hold a Ph.D. degree in Management with a specialization in human resource management and employment relations as well as an MBA degree and a BS degree with a specialization in accounting. I received extensive training during the course of my Ph.D. studies in primary research methods (*i.e.*, experimental designs, observational and participant-observation research methods, interviewing, and survey design and analysis), secondary research methods (*i.e.*, the use of published data bases and reference sources in conducting research), and quantitative research methods (*i.e.*, probability theory, univariate statistics, multivariate statistics); I have taught primary research methods courses to Ph.D. students at Columbia Business School and the UCLA Anderson School; and I have written extensively about the topics of human resource strategy, human resource management and business performance, job/work design and employee classification, hiring and selection, compensation and rewards, performance management and evaluation, and discipline and due process.

6. I have served as a consulting and testifying expert in labor and employment litigation for more than 30 years (1979-2013), having been retained on 274 occasions. Of these cases, I served as an expert for defendants 177 times, for plaintiffs 96 times, and jointly for plaintiff and defendant once. In these cases, I have rendered deposition testimony on 87 occasions and trial testimony on 48 occasions. My testimony has been rendered in federal, state and local courts across the country, administrative law courts, U.S. Tax Court, and arbitration hearings.

7. The subject matter of the cases in which I have been retained includes 1) age, race, gender, religious, national origin and disability discrimination, 2) wrongful termination, 3) executive compensation, including executive contracts, incentive compensation, and stock option usage and backdating, 4) employee compensation, including commission and piece-rate pay systems and practices, 5) wages and hours, including off-the-clock work, managerial misclassification, overtime, waiting time, and

meal and rest breaks; 6) independent contractor versus employee status, and 7) human resource management practices, including hiring, transfer, demotion, discipline and performance management.

8. A list of documents that my staff and I have considered are listed in footnotes and in Exhibit 2. A list of the deposition and trial testimony that I rendered during the past four years is appended to my CV (Exhibit 1). My hourly rate is $750 per hour.

II. BACKGROUND AND TASK ADDRESSED

9. It is my understanding that the class of 64,625 plaintiffs in this matter allege that their compensation during the period from 2005 to 2009 was suppressed (i.e., was lower than it otherwise would have been) due to an alleged conspiracy among seven companies (Adobe, Apple, Google, Intel, Intuit, Lucasfilm and Pixar) to enter into six pairs of "no cold call" agreements, including an agreement between Adobe Systems Inc. and Apple Inc.[1]

10. Counsel for Adobe has asked me to render an opinion about the effects, if any, of the alleged conspiracy on approximately 3,746 Adobe technical employees' compensation during the time period in question. To do so also requires that I render opinions regarding: 1) the functioning of labor markets and the determination of employee compensation in those markets, 2) the role of competition as it bears upon Adobe's labor markets, 3) Adobe's compensation practices, 4) the econometric analysis conducted by plaintiffs' expert, Prof. Edward Leamer, and the conclusions derived therefrom, and 5) the opinions of plaintiffs' experts, Prof. Kevin Hallock, Prof. Alan Manning and Prof. Matthew Marx, as they bear upon this matter.

[1] See *Consolidated Amended Complaint*, September 2, 2011.

III. SUMMARY OF OPINIONS

11. I have concluded that the alleged conspiracy during 2005-2009, including the no cold call agreement between Adobe and Apple, had no effect on the named plaintiffs or the 3,746-member Adobe technical class as a whole, and that plaintiffs have not identified any individual employee whose compensation was affected. Given the highly competitive labor markets that Adobe faced and the numerous channels/sources that Adobe used to search for, recruit and hire employees, the alleged restrictions on cold calling and the alleged reduced flow of information about job opportunities could not and did not suppress Adobe's employees' wages or the wages of the class. In support of this overall opinion, my more specific opinions are as follows.

12. First, Adobe closely matches the conception of the firm contained in neoclassical microeconomic theory. The labor markets in which Adobe competed for employees were highly competitive, geographically broad and decidedly not monopsonistic. Consequently, Adobe offered fair and competitive compensation to its employees and potential employees.

13. Second, Prof. Manning's opinion that Defendants exercised monopsony power and thereby suppressed wages of the class, including Adobe class members, is incorrect and, in any case, he offers no new evidence to support his opinion; Prof. Hallock's opinion that Defendants' use of formal compensation systems and reliance on pay equity combined to suppress wages of the class, including Adobe class members, is incorrect and, in any case, he offers no new evidence to support his opinion; and Prof. Marx's opinion that no cold call agreements among other Defendants resulted in the suppression of Adobe employees' compensation is incorrect and, in any case, he offers no new evidence to support his opinion.

14. Third, Plaintiffs' and Plaintiffs' experts' allegations that Adobe had a rigid compensation structure are not consistent with but, rather, are contradicted by the evidence.

15. Fourth, the ripple effects of any individual wage suppression posited by plaintiffs could not and did not occur at Adobe because the company's compensation practices were based on principles of Pay-For-Performance ("PFP") and Total Rewards, and because Adobe's notion of "internal equity" did not mean that a pay raise for one employee or some employees in response to cold calls would have caused pay raises for all or nearly all class members.

16. Fifth, my analysis of the data in this matter and my review of Prof. Leamer's econometric model identified major errors in his damages estimates, indicating that Prof. Leamer's analysis is unreliable and inconsistent with the functioning of labor markets. A key flaw of Prof. Leamer's analysis is that it fails to allow for the disaggregation of the Defendants, thereby masking differences among them and improperly attributing damages to Adobe.

IV. ADOBE CLOSELY MATCHES THE CONCEPTION OF THE FIRM CONTAINED IN NEOCLASSICAL MICROECONOMIC THEORY; CONSEQUENTLY IT OFFERED FAIR AND COMPETITIVE COMPENSATION TO ITS EMPLOYEES AND POTENTIAL EMPLOYEES

17. Neoclassical microeconomic theory posits that the demand for a product and the supply of that product intersect, thereby establishing a market price for that product and a quantity of that product purchased by consumers.[2] From this perspective, a pure theory

[2] This demand-supply analysis applies equally to products and services. The word "consumers" is synonymous with "customers."

perspective, one market price prevails for the product in question and one overall quantity purchased by consumers also prevails; this is known as equilibrium. The relevance of this theoretical perspective for the present case lies in what may be termed a second-order condition, namely, that the demand for labor or any other factor of production, such as capital or technology, is derived from the demand for the product. Such derived demand establishes a market price (i.e., wage) for labor and a quantity of employment at that price (wage).

18. If the demand for a product is inelastic, meaning that an increase in product price is accompanied by a relatively smaller decrease in quantity of product purchased, then the derived demand for labor will similarly be inelastic. This means that an increase in the price (wage) of labor will be accompanied by a relatively smaller decrease in employment, that is, in the amount of hiring by an employer. By contrast, if the demand for a product is elastic, meaning that an increase in product price is accompanied by a relatively larger decrease in quantity of product purchased, then the derived demand for labor will similarly be elastic. This means that an increase in the price (wage) of labor will be accompanied by a relatively larger decrease in employment, that is, in the amount of hiring by an employer.

19. Moving from this static analysis to a dynamic analysis, a shift in the demand for a product will be accompanied by a change in price and a change in quantity purchased. For example, if the market demand for a product increases over time, a new higher level of demand is established and results in both a higher price and a larger quantity of products purchased. Such demand increases occur during periods of macroeconomic growth (i.e., expansion) and/or industry growth, whereas demand decreases occur during periods of macroeconomic decline (i.e., recession) and/or industry decline. An increase in demand for a product typically results in an increase in the derived demand for labor and consequent increases in both the market wage and quantity of

employment. A decrease in demand for a product typically results in a decrease in the derived demand for labor and consequent decreases in both the market wage and quantity of employment.

20. Also in a dynamic analysis, a shift in the supply of a product will be accompanied by a change in price and a change in quantity purchased. For example, if the market supply of a particular product increases over time, a new larger total supply is established and results in a lower product price and a larger quantity of products purchased. Such supply increases occur during periods of macroeconomic growth (i.e., expansion) industry growth, technological innovation, and entry of new firms, whereas supply decreases occur during periods of macroeconomic decline (i.e., recession), industry decline, technological obsolescence and the exit of firms. An increase in the supply of a product typically results in an increase in the supply of labor, with a consequent decrease in the market wage and an increase in the quantity of employment. A decrease in the supply of a product typically results in a decrease in the supply of labor, with a consequent increase in the market wage and a decrease in the quantity of employment.

21. This dynamic analysis suggests that, over time, changes occur in both the demand for and the supply of products, thereby leading to new market equilibriums in so far as product prices and quantities purchased are concerned. Similarly and following the derived demand principle, changes also occur in both the demand for and supply of labor, thereby leading to new equilibriums in so far as the prices—wages—of labor and quantities of employment are concerned. The extent to which dynamic changes in product and labor markets occur and their consequent impacts on prices and quantities is a matter for empirical investigation.

22. Neoclassical economic theory (often known as price theory) is intended as an analytical device and therefore presumes certain market conditions, including complete mobility

and full information. In product markets, this means that consumers can readily, indeed, instantly, switch from one firm to another and that such consumers are fully informed about product prices and other attributes (e.g., quality) in making such switching decisions. In labor markets, this means that employees can readily switch from one firm to another and that such employees are fully informed about wages and other terms and conditions of employment that bear upon such switching decisions. It also means that potential employees—job applicants—are fully informed about the wages and other terms and conditions of employment attached to these opportunities.

23. Another labor market concept of relevance in this matter is that of "comparative net advantage," which refers to the characteristics of jobs that affect the choices individuals make in seeking employment or in seeking to switch employment. The wage is one but only one such characteristic; others include job location, type of work, work schedule and time away from work (or, in contemporary parlance, work-family life balance). Because individuals who seek employment or seek to switch employment take multiple factors into account in making such decisions, the wage attached to a particular job has some but only some influence on employment seeking and switching decisions. Nonetheless and stated in the language of neoclassical economic theory applied to the labor market, job seekers and job switchers alike attempt to maximize their respective individual utilities and do so by considering wages as well as other terms and conditions of employment.

24. In the real world of labor markets, wages and employment, the "pure" conditions of perfect competition, especially the equilibrium condition of one price (wage) for labor and one quantity of employment, don't necessarily exist. This is illustrated by the fact that there is substantial wage variation for most jobs rather than a single wage rate, and by the fact that there is substantial variation in other terms and conditions of

employment associated with particular jobs.[3] It is also illustrated by the fact that labor market information—about job opportunities, wages and other terms and conditions of employment—is not fully and freely available, and by the fact that workers and job applicants are not fully and freely mobile. These characteristics of labor markets have been the subject of research over many decades. The bulk of this research, however, focuses on industrial workers in manufacturing settings.

25. Applying this formal analysis to the case at hand, it is abundantly evident that from its founding in 1982, Adobe operated in highly competitive product markets and labor markets—and continues to do so. Adobe's "story" is one of rapidly growing demand for its products and services and rapidly growing demand for labor—employees. The company's history, including during the 2005-2009 period that is the focus of this case, shows that it comes about as close as is possible to the conception of a firm contained in neoclassical microeconomic theory.

26. Information about the company's products flowed fully and freely through product and labor markets. Customers could choose to purchase Adobe's products and services and/or those of numerous other firms, employees could chose to continue their employment with Adobe or seek employment elsewhere in the burgeoning industry in which Adobe competed (as well as outside of this industry), and job applicants from all over the world could readily seek employment with Adobe. Such information flows are characteristic of highly competitive, efficient product markets and, following the derived demand principle, of highly competitive, efficient labor markets.

27. This analysis also indicates that during the time period covered by this case, compensation for Adobe employees was fairly determined through competition with many other potential employers, both inside and outside of the high tech sector. If this

[3] See, for example, D. Lewin and D.J.B. Mitchell, *Human Resource Management: An Economic Approach*. 2nd Ed. Cincinnati, OH: South-Western, 1995, pp. 269-271 and 318-321.

was otherwise, that is, if employee compensation at Adobe hadn't been fairly and competitively determined, then Adobe would not have been able to attract, retain and develop the human capital that has been so essential to its success. As will be specifically shown later in this report, Adobe competed vigorously for employees, using numerous channel/sources, not just cold calling, to search for, recruit and identify prospective employees, and offered multifaceted compensation to attract and retain such employees. It is also my understanding that during the time period covered by this case, Apple used numerous channels/sources, not just cold calling, to recruit employees, both in general and from Adobe. From this perspective, plaintiffs' claim that the pay of 64,625 technical, creative and R&D employees in the class as a whole and 3,746 Adobe employees in particular was suppressed is untenable, indeed, wrong. So too are the conclusions and opinions rendered by plaintiffs' several experts, which are closely analyzed later in this report.

V. ADOBE'S LABOR MARKETS WERE HIGHLY COMPETITIVE AND NOT MONOPSONISTIC; IT USED MULTIPLE CHANNELS TO SEARCH FOR, RECRUIT AND HIRE EMPLOYEES; CONSEQUENTLY THE BILATERAL AGREEMENT WITH APPLE DID NOT CREATE WAGE SUPPRESSION

28. In the high-tech sector generally and in Silicon Valley in particular, labor markets have long been exceptionally competitive. That is, competition among high tech firms for high quality "labor" has been vigorous, aggressive, and often characterized as a "war for talent."[4] This is attested to by the fact that during 2005-2009 Adobe's business and that of other high tech firms grew rapidly, meaning that customer demand for these companies' products increased rapidly and, therefore, so too did these companies'

[4] See, as examples, M. Benioff, *Behind the Cloud*. San Francisco: Jossey-Bass, 2009, and E. Michaels, H. Hanfield-Jones and B. Axelrod, *The War for Talent*. Boston, MA: Harvard Business School Press, 2001.

demands for labor. Figure 1 below shows this trend.[5] Hence, during that period and as part of its human resources organizational unit, Adobe had a formal recruiting function with a full-time staff of about [redacted] recruiters whose job was to search for, recruit and identify candidates for employment at Adobe.[6] Once identified, those candidates were brought to the attention of Adobe managers who were ultimately responsible for making hiring decisions.[7] Adobe's substantial hiring and attrition rates during 2005-2009, which are analyzed later in this report, further attest to the highly competitive labor markets that prevailed during that period.

Technical, Creative, and R&D Employees

[redacted]

Figure 1

[5] Employee ID records for December only are included. See Prof. Leamer's backup data and materials.
[6] Start-up companies typically do not have a formal human resources (HR) functional unit or department. Such a unit (department) may be established if and when a start up company evolves to the growth stage of its organizational life cycle, although practice varies in this regard. It is therefore notable that Adobe established an HR unit with a component recruiting function early in the company's history, which in turn reflected the vigorous competition for employees that Adobe faced from its founding and specifically during 2005-2009. For a similar example, see Benioff, *op cit*., pp. 233-239.
[7] *Deposition of Jerry Sastri*, March 8, 2013 ("Sastri Deposition"), pp. 83–103; Exhibits 1684, 1685.

29. Actual hiring can be thought of as the end point of a process that begins with the identification of "labor pools" or, more formally, labor supplies. Adobe recruiters were responsible for identifying those labor pools and searching for and identifying potential candidates for employment at Adobe.[8] In doing so, Adobe recruiters assessed the knowledge, skills and abilities (KSAs) of potential candidates in order to determine who among them best fit (i.e., matched) the duties, responsibilities and related requirements of available positions; this constituted a labor market-job matching process.

30. In carrying out this process, Adobe used a wide variety of recruiting channels/sources. These included employee referrals, social networking sites (e.g., LinkedIn), employment agencies, universities/internships, Adobe.com, cold-calling, passive recruiting, rehiring, temporary employees converted to full-time employment (i.e., "temp to perm"), internal movement, online postings (e.g., CareerBuilder), job fairs, and others.[9] Exhibit 3A shows that Adobe used at least 35 different recruiting channels/sources between 2000 and 2012.[10] While cold calling was a specific tactic, passive recruiting was an umbrella of tactics used to locate and attract employees who were not actively searching in the labor market.[11] One of plaintiffs' experts, Prof. Edward Leamer, incorrectly assumes that Adobe's focus on "passive recruiting" was synonymous with cold calling; however, there are many other ways through which

[8] Sastri Deposition pp. 83–103; Exhibits 1684, 1685.
[9] *Declaration of Jeff Vijungco*, November 9, 2012 ("Vijungco Declaration") ¶ 4 (identifying sources); *Deposition of Jeff Vijungco*, October 5, 2012 ("Vijungco Deposition") pp. 228–239 (identifying sources); Exhibit 302, ADOBE_053182 (listing sources of Adobe hires).
[10] Similarly, Exhibit 3B shows that Apple used at least 50 different recruiting channels/sources between September 2006 and April 2012. The Apple hiring data that I rely upon to identify recruiting channels/sources and previous employers are only available for these dates.
[11] *Deposition of Donna Morris*, August 21, 2012 ("Morris Deposition") pp. 106–108; Sastri Deposition p. 102; Vijungco Deposition pp. 251–253; Exhibits 212, 303; Interview with Jeffrey Vijungco, Adobe Director of Talent Acquisition, San Jose, CA, November 1, 2013 ("Vijungco Interview").

passive candidates were recruited.[12] Some of these channels were used for a relatively long time, others for shorter periods.[13] Nonetheless, information about Adobe job opportunities was provided through all of these channels, and no one of them was a dominant, let alone exclusive, source of such information. For example, it was not uncommon for even a passive job candidate to have heard about an available Adobe position from a family member, a colleague, a friend in his/her social network, and/or a posting on a job board. This means that reducing or eliminating cold calling from one company was likely to have had little or no impact on the flow of information to Adobe job applicants/candidates because there were many alternative channels/sources for accessing such information. Indeed, although Prof. Leamer says he believes cold calling disseminates "special" information to "special" employees, he concedes that employee introductions disseminate the same information.[14]

31. In carrying out labor market search, recruitment, candidate identification and hiring activities, Adobe recruiters and managers were well aware that Adobe competed with other Silicon Valley firms as well as firms outside of Silicon Valley. Those firms included Yahoo, PeopleSoft, Intuit, Apple, Microsoft, Facebook, Hyperion, Google, Oracle, Sony, Boeing, Sun Microsystems, and many others.[15] This competition for employees was not something new but, rather, long standing. Just as firms attempt to differentiate their products when competing for customers, they attempt to differentiate their organizations and jobs when competing for employees. Some firms do so by emphasizing pay or total compensation and some firms do so by emphasizing other

[12] *Expert Report of Edward E. Leamer, Ph.D,* October 28, 2013 ("Leamer Report, October 28, 2013"), p. 5.
[13] Vijungco Declaration ¶ 4 ("The importance of different channels has changed over time . . . ."); Vijungco Interview.
[14] *Deposition of Edward E. Leamer, Ph.D*, November 18, 2013 ("Leamer Deposition, November 18, 2013"), p. 876:20-24.
[15] During 2005-2009, there was an average of 1,624 U.S. firms with twenty or more employees that competed with Adobe in the software publishing industry (NAICS Code 51121). In California alone, there was an average of 449 such firms between 2007 and 2009. Source: *Statistics of U.S. Businesses,* US Census Bureau; 2005-2009 Annual Data. NAICS Code 51121: Software Publishing.

terms and conditions of employment, including promotion opportunities, non-monetary rewards and recognition, and even organization culture. All this indicates that the competition for employees among Silicon Valley firms (and other firms) was multi-faceted and intense. Adobe was part of this competitive landscape.

32. Exhibit 4A reports the top 20 previous employers of Adobe technical employee hires that occurred during the 2005-2009 period. No single employer accounted for more than 3.6% of Adobe hires. In addition, none of these employers accounted for more than 1.7% of Adobe hires either before or after the 2005-2009 period. An analysis of Apple data, reported in Exhibit 4B, yields similar results. No single employer accounted for more than [redacted] of Apple technical employee hires that occurred during the 2005-2009 period, and none of them accounted for more than [redacted] after this period.

33. Not only did Adobe compete with these companies for employees, it was successful in hiring employees from these companies throughout the class period. Exhibit 5A shows the distribution of Adobe technical hires and separations from previous employers. Adobe hires from Apple occurred before and during the class period. Further, the data indicate that before, during, and after the class period, Adobe consistently hired employees who previously worked for the other Defendants. In the case of Apple, however, Figure 2 below shows that the amount of such hiring was very small;[16] only 1.5% of all of Adobe's new hires during 2001 to 2011 were previously employed by Apple.[17] Notably, Adobe continued to identify and hire Apple employees via referrals from current employees during the 2005-2009 period. Of the 19 former Apple

[16] See Exhibit 5A for data and methodology.
[17] These data are consistent with responses to questions posed to Jeffrey Vijungco, Adobe Director of Talent Acquisition, during his November 1, 2013 interview. Mr. Vijungco said that there was a huge pool of job candidates from San Jose, Marin County and Berkeley for all publicly traded companies, and that Apple was only one among many firms that hired from that pool.

employees that were hired by Adobe from 2005 to 2009, 12 were through referrals made by Adobe employees.[18]

Hires at Adobe
For Members of the Technical Class

[redacted]

Figure 2

34. An analysis of Apple employee data yields similar results. Exhibit 5B shows the distribution of Apple technical hires and separations from previous employers. Apple hires from Adobe occurred before and during the class period. In the case of Adobe, however, Figure 3 below shows that the amount of such hiring was very small;[19] less than [redacted] of all of Apple's new hires during 2001 to 2011 were previously employed by Adobe. Notably, Apple continued to identify and hire Adobe employees via referrals from current employees during the 2006-2009 period. Of the [redacted] former Adobe

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[18] See Exhibit 3C.
[19] See Exhibit 5B for data and methodology.

employees that were hired by Apple from September 2006 to December 2009, [redacted] were through referrals made by Apple employees.[20]

Hires at Apple
For Members of the Technical Class

[redacted]

Figure 3

35. Job opportunities for Adobe employees were widespread, both geographically and across industries, with Adobe accounting for only a small fraction of employment in particular occupations. In this regard, I identified occupations in the Standard Occupational Classification ("SOC") system that corresponded to the occupations of Adobe employees included in the 3,746-member Adobe Technical Class,[21] and then

[20] See Exhibit 3D.
[21] The SOC system is used by the U.S. Department of Labor and other Federal agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of 840 detailed occupations according to their occupational definitions. To facilitate classification, detailed occupations are combined to form 461 broad occupations, 97 minor groups, and 23 major groups. Detailed occupations in the SOC with similar job duties and, in some cases, with similar skills, education, and/or training are grouped together. See http://www.bls.gov/soc/

calculated total employment in each of these occupations across various geographic regions. Exhibit 6A shows that within the Software and Web Development category, Adobe accounted for only between 3.3% and 5.1% of employment in the San Jose MSA and between 0.1% and 0.2% of employment nationwide during the period from 2001 to 2012. During the narrower 2005-2009 period, Adobe accounted for only between 4.3% and 5.1% of Software and Web Development employment in the San Jose MSA. Similarly, Exhibit 6B shows that Adobe's share of employment in the IT category in the San Jose MSA ranged from 1.3% to 5.4% between 2001 and 2012 and from 2.3% to 4.2% between 2005 and 2009. Indeed, Adobe represented a low percentage of the workforce in every labor pool it recruited from during the 2005-2009 period, including Graphic Designers, Technical Writers, and User Groups. (See Exhibits 6C to 6E.)

36. Adobe also competed with companies across a broad variety of industries whose demands for labor were similar to its own. Exhibit 7 shows the top industries in terms of employment in Technical Class occupations; it indicates that employment in these occupations was hardly limited to the software publishing industry. For example, such employment by insurance carriers averaged approximately 100,000 annually between 2005 and 2009. Similarly, such employment by wired telecommunications carriers averaged approximately 85,000 annually between 2008 and 2009. Although labor market competition among these various occupations may have been more substantial for some firms than others,[22] it is clear that Adobe competed for Technical Class type employees with a large number and variety of firms across numerous geographic areas and industries.

[22] For example, an April 2010 document lists fifteen direct peers and nine additional reference peers that Adobe used to benchmark compensation. The direct peers were Activision Blizzard, Autodesk, BMC Software, Citrix, CA Technologies, EBay, Electronic Arts, Intuit, Juniper Networks, McAfee, NetApp, Nvidia, Symantec, VMware, and Yahoo. The additional reference peers were Apple, Cisco, EMC, Google, HP, IBM, Intel, Microsoft, and Oracle. Email message from Debbie Streeter to Michael Gough, April 6, 2010; ADOBE_068264-266, 265.

37. Adobe and other Silicon Valley firms also competed for employees in multiple labor markets, not simply a single labor market. To illustrate, Adobe searched for, recruited and hired application developers, business system analysts, computer scientists, database administrators, graphic designers, interoperability engineers, information technology specialists, product marketing specialists, safety engineers, telecomm engineers, product development specialists, program managers, programming analysts, quality control specialists, software development specialists, system administrators, systems engineers, technical writers, user support specialists, web development and design specialists, and various managers and directors. Each of these labor markets represented a particular specialty (or set of specialties) and each presented particular competitive challenges to Adobe. There were distinct labor pools—labor supplies—in each of these markets, and Adobe recruiters had to tailor their search, recruiting and candidate identification practices to each of these markets. Hence, there was no single, unified labor market in which Adobe competed for talent during 2005-2009.

38. An important way in which Adobe acquired talent during 2005-2009 was through merger and acquisition. For example, in December 2005 Adobe acquired Macromedia the creator, among other things, of Flash. This acquisition added approximately 1,200 employees to Adobe's workforce and presented Adobe with the task of integrating Macromedia's employees and their compensation into Adobe.[23] In October 2009, Adobe acquired Omniture a firm specializing in web-based product development and marketing. This acquisition added about 1,000 employees to Adobe's workforce and,[24] as with Macromedia, presented Adobe with the challenge of integrating Omniture's employees and their compensation into Adobe.[25] Analytically, these additional

[23] Morris Deposition pp. 47–50; Morris Declaration ¶ 35.
[24] ADOBE_014769.
[25] *Deposition of Rosemary Arriada-Keiper*, March 28, 2013 ("Keiper Deposition"), pp. 146–147; *Deposition of Deborah Streeter*, April 5, 2013 ("Streeter Deposition") pp. 90–94; *Declaration of Donna Morris*,

channels/sources for adding employees further reduced the relative importance of cold calling. Prof. Leamer did not study the Macromedia acquisition in terms of its effects on Adobe employees' compensation, claiming that it was not material to the task he was carrying out.[26] However, to the extent an event (such as an acquisition) changes the compensation mix at Adobe, it should be germane to calculating supposedly suppressed compensation.

39. Below market or suppressed compensation of the type that plaintiffs allege in this matter would have made it difficult for Adobe to hire new employees and/or resulted in labor shortages during a period in which the company was growing rapidly in size and across product lines. Exhibit 8 shows the growth of Adobe's business between 2001 and 2011. The dynamic nature of Adobe's business (i.e., product lines), including during the 2005-2009 period, affected its demand for labor and the ways in which it chose to acquire labor. This was illustrated by the two major acquisitions Adobe made during the 2005-2009 period that added approximately 2,200 employees to its workforce, and by several changes that Adobe made to its organizational structure, including changing the reporting relationships of its business segments so as to better align them with market opportunities.[27]

40. The aforementioned analysis is also relevant for assessing the arguments made and opinions rendered by another of plaintiffs' experts, Prof. Alan Manning. In his report, Prof. Manning opines, "Labor markets are imperfectly competitive and are properly described as monopsonistic. The great weight of academic research, including

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November 9, 2012 ("Morris Declaration) ¶ 36, p. 10; Interview with Donna Morris, Adobe Senior Vice President of Global Human Resources, San Jose, CA, November 1, 2013 ("Morris Interview"), and Interview with Rosemary Arriada-Keiper, Adobe Manager of Global Compensation, San Jose, CA, November 1, 2013 ("Keiper Interview").

[26] Leamer Deposition, November 18, 2013, pp. 986:15-987:19. Similarly, Prof. Leamer did not study the Omniture acquisition.

[27] Adobe Systems Inc. 10-K for the period ending December 1, 2006, p. 51.

empirical research, supports this conclusion."[28] He emphasizes that labor market monopsony restricts the flow of information about job opportunities to workers and potential workers, thereby leading to wage suppression, that is, under-compensation, and he concludes that this is in fact what occurred in the present case.[29]

41. Monopsony in the labor market has traditionally been defined as a single buyer of labor and has been illustrated by the example of a company town in which only one firm demanded and hired labor, and by the example of a cartel in which several hospitals operating in close geographical proximity adopted such an arrangement and thereby restricted—held down—the compensation of nurses.[30] The research literature cited by Prof. Manning attempts to expand this definition to cover other instances of labor market "imperfections." On closer inspection, however, it is evident that this research is inapplicable to the present case. This is because in all but one of these studies a centralized process of the type that runs contrary to the compensation determination process at Adobe was used to determine "wages," and because none of the research settings and occupations were even closely similar to those of Silicon Valley-based high tech firms. Rather, these settings and occupations included nurses in Veteran Affairs (VA) hospitals, public school teachers in Norway and in the State of Missouri, a regional retail grocery store chain in which all non-management employees were covered by collective bargaining agreements, a sample of German employees in which 93 percent were covered by collective bargaining agreements, the labor market for highly unionized Swedish engineers, and Federal appellate court clerks whose pay is set by statute.[31]

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[28] *Expert Report of Alan Manning, Ph.D.,* October 28, 2013 ("Manning Report"), p. 4.
[29] Manning, *op. cit.*, pp. 2-4.
[30] Lewin and D.J.B. Mitchell, *op cit.*, pp. 280-282.
[31] D.O. Staiger, J. Spetz and C.S. Phibbs. 2010. Is there Monopsony in the Labor Market? Evidence from a Natural Experiment. *Journal of Labor Economics*, Vol. 28, No. 2: 211-236; T. Falch. 2010. The Elasticity of Labor Supply at the Establishment Level. Journal of Labor Economics, Vol. 28, No. 2: 237-266; M.R. Ransom and D.P. Sims. 2010. Estimating the Firm's Labor Supply Curve in a 'New Monopsony'

42. Further, in his own book on this topic, Prof. Manning says, "But skeptics might more legitimately wonder whether the extent of monopsony power in the labor market is large enough to justify a heavy book on the subject. There are two ways to address these doubts. First, one can try to provide direct evidence on the extent of monopsony power. This means trying to obtain estimates of the elasticity of the labor supply curve facing individual employers. The second way of providing evidence on the extent of monopsony power is more indirect: to provide evidence on the predictions of monopsony and to emphasize how monopsony can provide a much better explanation of a wide range of labor market phenomena."[32] Tellingly and according to his expert report in this matter, Prof. Manning did neither of these things.

43. Prof. Manning also invokes social network theory and research to support his opinion that restrictions on cold calling led to wage suppression of the type alleged by plaintiffs in this matter. To illustrate, he says, "There is a large body of academic research documenting the importance of social networks in providing information about labor market opportunities…Because all social interaction unavoidably transmits information, details about employers, employees and jobs flow continuously through social networks."[33] But Prof. Manning fails to consider that cold calling is only one

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Framework: Schoolteachers in Missouri. *Journal of Labor Economics*, Vol. 28, no. 2: 331-355; M.R. Ransom and R.L. Oaxaca. 2010. New Market Power Models and Sex Differences in Play. *Journal of Labor Economics*, Vol. 28, No. 2: 267-289; B. Hirsch, T. Schank and C. Schnabel. 2010. Differences in Labor Supply to Monopsonistic Firms and the Gender Pay Gap: An Empirical Analysis Using Linked Employer-Employee Data from Germany. *Journal of Labor Economics*, Vol. 28, No. 2: 291-330; J.T. Fox. 2010. Estimating the Employer Switching Costs and Wage Reponses of Forward-Looking Engineers. *Journal of Labor Economics*, Vol. 28, No. 2: 357-412; G.L. Priest. 2010. Timing 'Disturbances' in Labor Market Contracting: Roth's Findings and the Effects of Labor Market Monopsony. *Journal of Labor Economics*, Vol. 28, No. 2: 447-472.

[32] Alan Manning, *Monopsony in Motion, Imperfect Competition in Labor Markets*. Princeton, NJ: Princeton University Press, 2003, pp. 360-361.

[33] Manning Report, p. 19, quoting M. Granovetter, "The Impact of Social Structure on Economic Outcomes," *Journal of Economic Perspectives*, Vol. 19, No. 1, 2005, p. 38. Note, however, that Prof. Manning also says, "This literature is too large to describe in detail in this report" (p. 19), which contrasts markedly with the

among many ways by which labor market information is transmitted, and also that social networking web sites through which such information is often transmitted grew rapidly during the time period (i.e., 2005-2009) covered by this case. Further, none of Prof. Manning's arguments and opinions is made with specific reference to Adobe.

44. Yet another of plaintiffs' experts, Prof. Matthew Marx, opines in his report that Class members' pay was suppressed as a result of no cold call agreements among the parties, though he offers no specific or new evidence in this regard.[34] In his deposition Prof. Marx claimed that these agreements enabled Adobe to hire employees at lower pay than otherwise would have prevailed.[35] The main flaw of this opinion is that it ignores the fact that during the class period (as well as before and after), Adobe competed for employees with many other firms across a wide range of industries. Adobe would not have been able to attract and hire employees with the requisite skills, knowledge and abilities (KSAs) if it had offered below market compensation. In other words, Defendants were hardly the only firms with substantial demands for technical, creative and R&D employees.

45. Plaintiffs' experts single out for attention the 2010 decision by Google to raise all of its employees' pay by 10% (i.e., an across-the-board increase), otherwise known as the "Big Bang." For example, Prof. Manning says, "…the policy of raising salaries by 10% for all existing workers simply means that Google was paying above the market wage for its workers, something that is hard to explain."[36] One cannot simply assume, however, that when a company decides to raise pay for its workforce this necessarily means that pay was previously at market. Such pay may have been below market, in

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detail provided by Prof. Manning about research on labor market monopsony and which also calls into question the direct applicability of social network research to the case at hand.

[34] *Expert Report of Matthew Marx*, October 27, 2013 ("Marx Report"), p. 3.

[35] Marx Report ¶ 6D

[36] Manning Report, *op cit.*, p. 32. Expert Witness Report of Kevin F. Hallock, October 27, 2013 ("Hallock Report, October 27, 2013") ¶193, and Leamer Report, October 28, 2013 ¶110

which case a decision to raise pay brings pay up to market. Nor can one assume that an increase in one component of pay translates to an overall increase in total compensation (e.g., a company could decide to increase base salary but at the same time reduce equity or bonuses). In other words, this is not an either/or decision, and Prof. Manning does not know which condition prevailed in this particular circumstance. More to the point, however, Google's 10% across-the-board pay increase decision illustrates that each firm can decide whether to raise pay for a few of its employees, many of its employees, or all of its employees.

46. Moreover, there are several reasons for why the Big Bang is not relevant to a determination of whether the agreement between Apple and Adobe harmed Adobe's employees. First, the agreement restricted only one of many recruiting channels and the actions of a single competitor – Apple – which hired less than [redacted] of Adobe's former employees; see Exhibit 4B. Second and by contrast, my understanding is that Google instituted the Big Bang in order to deal with labor market competition from a multitude of start-up companies, notably Facebook and Twitter.[37] Employee attrition to Facebook appeared to be a growing concern at Google.[38] To illustrate, in Q3 2010 Facebook made [redacted] offers to Google employees, [redacted].[39] Prior to the Big Bang, Google estimated that Facebook had [redacted].[40] Google also expected [redacted] Third, according to an internal document, Google instituted the Big Bang partly [redacted]

[37] GOOG-HIGH-TECH-00452571-583, 572.
[38] GOOG-HIGH-TECH-00452571-583, 572.
[39] GOOG-HIGH-TECH-00196204-296, 205.
[40] GOOG-HIGH-TECH-00193360-367, 361.
[41] GOOG-HIGH-TECH-00193360-367, 360.

[redacted]."[42] Fourth, other documents reflect that Google was responding to concerns that employees "[redacted])[43] Hence, there is no reason to assume that Adobe would have faced circumstances comparable to those of Google but for its bilateral agreement with Apple.

47. Based on Prof. Manning's reasoning, not only would information about cold calls be transmitted through social networks, all other forms of information would also be transmitted through social networks. This includes information gained when an individual separates from or is hired by a firm, when an individual seeks information from job boards, Adobe's website, etc., and all other forms of recruiting which were in no way restricted by the alleged Adobe/Apple agreement.

48. Prof. Manning also says, "There is a vast amount of information available about the labor market, but it varies enormously in quality and the quality is far more important than the quantity."[44] He then claims that "information received in a cold call is of a higher quality and is more useful to workers" than other sources of information, such as salary.com." I agree with Prof. Manning that there is a vast amount of available labor market information and that the quality of this information is important. But, information received from a cold call is not of higher quality than information provided and obtained through the many other available information sources (all of which, with the exception of salary.com, are ignored by Prof. Manning). This point is actually affirmed by Prof. Manning, who quotes the following from an article by Prof. Granovetter: "Prospective employers and employees prefer to learn about one another

[42] GOOG-HIGH-TECH-00452571-583, 573.
[43] GOOG-HIGH-TECH-00194984-985, 985.
[44] Manning Report, *op. cit.*, p. 16.

from personal sources whose information they trust."[45] This, in turn, suggests that the quality of information flow from somebody you know, such as through social networks, is higher than from somebody you don't know, such as through cold calls. This is borne out in the Adobe data; Exhibit 3 indicates that employee referrals (hires from referrals by an Adobe employee) was the number two channel for Adobe hires narrowly trailing acquisitions.

49. Adobe is linked to the Defendants solely through its single bilateral agreement with Apple.[46] As such, Adobe was free to cold-call any of the other Defendants during the class period, with the exception of Apple. Nonetheless, Plaintiffs' experts are conflicted about the effect of the relative involvement of each Defendant on compensation. Under Prof. Manning's approach, the scope of the restriction on cold calling would affect the amount by which compensation was reduced.[47] He defers to Prof. Leamer's statistical analysis to quantify the effect. By contrast, Prof. Leamer says that even though competition among the other Defendants continued as usual, that does not change the claim that compensation was suppressed due to the agreements in general.[48] In other words, Prof. Leamer makes no correction for the relative involvement of each Defendant. Indeed, he purposefully "smoothed" his model specification so that no single Defendant was "picked on".[49]

VI. PLAINTIFFS' AND PLAINTIFFS' EXPERTS' ALLEGATIONS THAT ADOBE HAD A RIGID COMPENSATION STRUCTURE ARE NOT

[45] Manning Report, *op. cit.*, p. 19. The quoted source is M. Granovetter, "The Impact of Social Structure on Economic Outcomes," *Journal of Economic Perspectives*, Vol. 19, No. 1, 2005, p. 38.
[46] Leamer Report, October 1, 2012, p. 10.
[47] *Deposition of Alan Manning*, November 14, 2013 ("Manning Deposition"), p. 95:19-22: "It is not unreasonable to draw from that that the inference that the size of the restriction has some effect on how many competition was reduced and hence the effect on compensation."
[48] Leamer Deposition, November 18, 2013, pp. 1095:4-1096:4.
[49] Leamer Deposition, November 18, 2013, pp. 1070:21-1071:12.

CONSISTENT WITH BUT, RATHER, ARE CONTRADICTED BY THE EVIDENCE

A. Adobe's Compensation Data Show Large Variation Within Job Titles

50. At Adobe, substantial variation in compensation within job titles occurred consistently, including during the 2005-2009 period. Exhibits 9A-E show the distributions of annual total compensation for the most common job titles at Adobe, which varied markedly among individual employees within a job title. Further, Adobe employees experienced large variation in percentage compensation changes year over year, including during the class period; this is shown in Exhibits 10A-E. At a high level, these compensation diagrams indicate that total compensation and total compensation changes within job titles before, during and after the class period were highly diverse. In other words, even within a particular job title Adobe employees were differentially compensated.

B. Cohort Analyses Indicate that Compensation Structures were Not Rigid

51. To understand whether, as plaintiffs' experts allege, compensation structures were so rigid that a raise for one employee or some employees was extended to all or nearly all employees, individual compensation patterns (as distinct from job title compensation patterns) should be analyzed among other things. By defining a cohort of comparable employees in a given year, changes in compensation over time can be compared regardless of job titles. Figures 4 to 8 below present relative changes in compensation within the five most common job titles in the Adobe-specific portion of the Class.[50] These job titles are [redacted]

[50] Employees are excluded from Figures 4 to 8 if they were not part of the technical class from 2005 to 2009.

[redacted]. The data indicate that employees who shared the same job title in the same year experienced wide-ranging compensation and compensation changes over time.[51] In particular, the cross-weaving of compensation trajectories displayed in the figures shows that compensation levels and changes were anything but rigid and were not dictated by peers' upward or downward compensation movements.

Total Compensation Index

[redacted]

Figure 4

[51] The Job Title 2005 Cohort is defined as all employees in a specific job title in 2005 that were employed through 2009.

Total Compensation Index

[redacted]

Figure 5

Total Compensation Index

[redacted]

Figure 6

Total Compensation Index

[redacted]

Figure 7

Total Compensation Index

[redacted]

Figure 8

52. Not only was compensation highly varied within the same beginning job title, the cohorts of employees who held these titles exhibited substantial mobility into different job titles after 2005; this is shown in Exhibits 11A-E. For example, of the [redacted] Adobe employees who held the position of [redacted] in 2005, only [redacted], remained in the same position in 2009. Among the 148 others in this cohort, [redacted] separated from employment (presumably for more favorable terms elsewhere) and the remaining [redacted] were promoted. The compensation and mobility of this cohort of employees was clearly not defined or predetermined by their 2005 job title or the associated salary range. In other words, [redacted] of these employees experienced mobility or movement out of their 2005 job title salary range. See Exhibit 11A.[52]

C. Prof. Hallock Asserts that [redacted] Compensation History Reflected a Rigid Compensation Structure; this Assertion is Demonstrably False

53. Another of plaintiffs' experts, Prof. Kevin Hallock, asserts that [redacted] compensation history provides anecdotal evidence of a rigid wage structure at Adobe being upheld through job title internal equity.[53] This is demonstrably false. [redacted] was the subject of an email chain in which Adobe clearly made a decision in 2010 to execute an immediate [redacted] in order to retain Mr. [redacted].[54] A closer look at [redacted] in Table 1 below reveals that his high performance ratings

[52] Similarly, of the [redacted] in 2005, [redacted] experienced mobility or movement by 2009; see Exhibit 11B. Of the [redacted] in 2005, [redacted] experienced mobility or movement by 2009; see Exhibit 11C. Of the [redacted] in 2005, [redacted] experienced mobility or movement by 2009; see Exhibit 11D. Of the [redacted] in 2005, [redacted] experienced mobility or movement by 2009; see Exhibit 11E.

[53] *Expert Witness Report of Kevin F. Hallock*, May 10, 2013 ("Hallock Report, May 10, 2013"), p. 34.

[54] Exhibit 1250

throughout his tenure at Adobe were consistently rewarded with increases in his base salary, equity grants and bonuses.

[redacted] Annual Salary

	2008	2009	2010
Base Salary	[redacted] [redacted]	[redacted] [redacted]	[redacted] [redacted]
Bonus	[redacted] [redacted]	[redacted] [redacted]	[redacted] [redacted]
Share Value	[redacted] [redacted]	[redacted] [redacted]	[redacted] [redacted]
Total Compensation	[redacted] [redacted]	[redacted] [redacted]	[redacted] [redacted]
% Change in Total Comp	-	[redacted]	[redacted]

Table 1

54. Under plaintiffs' theory of a fulsome ripple effect, the cohort of employees with the same 2008 job title as Mr. [redacted] would have experienced similar increases in compensation as a direct result of Mr. [redacted] increases. If a rigid compensation structure existed, the relevant data should be consistent with this, showing future compensation movements adhering closely to the increasing or decreasing trends of previous compensation movements.[55] Figure 9 demonstrates that this was not the case; the data is inconsistent with plaintiffs' theory.[56] To the contrary, the cross weaving of annual compensation movements reveals a non-rigid compensation structure showing compensation increases for some employees and decreases for others.[57] Mr. [redacted]

[55] Co-movement in compensation is a necessary condition for the existence of a rigid compensation structure. However, the observation of co-movement in compensation is not proof of a rigid compensation structure; compensation could be moving in a certain direction because of outside macro-economic or micro-economic factors.

[56] Analysis excludes employees who separated from Adobe prior to December 2010.

[57] Of the [redacted] employees in [redacted] cohort, [redacted] were similar to Mr. [redacted] in that they received compensation increases in both 2009 and 2010. Of the remaining employees, [redacted] received compensation

compensation increases during 2009 and 2010 clearly were not replicated across or experienced by members of his cohort. In sum, this cohort's compensation was not dictated by Mr. [redacted] year over year compensation increases or by an overarching rigid compensation structure.

Total Compensation Index

[redacted] **2008 Job Title Cohort**

[redacted]

Figure 9

55. Further, the cohort of Adobe employees that included Mr. [redacted] experienced substantial internal job mobility; this is illustrated in Table 2 below.[58] Of the [redacted] employees that held the same job title as Mr. [redacted] in 2008, only [redacted] or [redacted] remained in that job title in

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increases in 2009 followed by compensation decreases in 2010, [redacted] received compensation decreases in 2009 followed by compensation increases in 2010, and [redacted] employees received compensation decreases in both 2009 and 2010.

[58] Source: Adobe employment data (Employee ID record in December of each year). The [redacted] 2008 job title cohort is defined as employees who shared [redacted]'s job title of [redacted] in December of 2008. The analysis tracks the respective job titles in subsequent years. [redacted] is excluded from the analysis.

2010; of the [redacted] others, [redacted] separated and [redacted] were promoted. Prof. Leamer claims that individual compensation was suppressed by a rigid compensation structure in which salary was dictated by job title. However, he overlooks the fact that Adobe employees were highly mobile and, accordingly, their compensation and compensation growth were not dictated by job titles or the accompanying salary ranges. Similarly, plaintiffs' argument that individual employee compensation was constrained by job title salary ranges and job title internal equity assumes that employees were defined by their job titles. But as this analysis has shown individuals frequently move to new job titles and the associated salary ranges. Therefore even if a particular job had a salary range, Adobe employees were not constrained by those ranges because they were frequently promoted to new titles and new ranges.

[redacted] 2008 Job Title Cohort
Job Title Mobility Analysis

[redacted]

Table 2

D. A Statistical Analysis of New Hire Compensation vs. Incumbent Compensation Rejects Plaintiffs' Experts' Internal Equity Hypothesis

56. Plaintiffs' experts are correct that Adobe like many firms considers as one factor among many internal equity when making pay decisions. I have seen no evidence that supports Plaintiffs' experts' arguments that the concept of internal equity would necessitate increases in pay to all or nearly all employees when adjustments were made to one or some employees. It was one factor managers considered when deciding pay.

And I've seen no evidence that Adobe at the company level increased the pay in one action or a series of actions of all or nearly employees due to internal equity.

57. One way to examine plaintiffs' theory is to compare new hire salaries with incumbent employee salary ranges. For example, did a new hire fall between the incumbent first quartile and median salary or above the incumbent maximum salary? If plaintiffs' experts' "notion" of internal equity prevailed in this regard, one would expect to find data consistent with the theory. Among other things, you'd expect to find 10% of new hire compensation to have fallen between the minimum and the first decile and another 10% between the 90th percentile and the maximum. Similarly, you would expect 15% would have fallen between the tenth percentile and the first quartile and another 15% between the third quartile and the 90th percentile. At Adobe during the 2005-2009 Class period, there were 1,554 new hires into technical positions with an average salary of approximately [redacted].[59] Figure 10 below shows the actual distribution of Adobe's new hire compensation relative to incumbent employees' compensation.[60] This histogram indicates that [redacted] of new hires were hired below the minimum of the salary ranges and about [redacted] were hired above the maximum of the salary ranges. In statistical parlance, the tails of the actual distribution are much thicker than the expected distribution based on presumed internal equity. A Chi-squared test indicates that these two distributions are statistically significantly different; therefore, the hypothesis that new hire compensation was based on incumbent compensation, that is, internal equity, is rejected.[61] This refutes the claim that internal equity and job title salary ranges dictate compensation.

[59] There were 73 new hires without job title incumbents to serve as benchmarks and who were therefore excluded.
[60] This analysis excludes any new employees hired into a job title with no incumbents. This excludes 73 new hires out of a total of 1627.
[61] The Chi-squared goodness-of-fit test yielded a test statistic of 118.254 with a p-value < 0.001. I therefore conclude that the observed distribution of new hire compensation is not consistent with the incumbent salary distribution.

Histogram of New Hire Versus Incumbent Salary Range Distribution

[redacted]

Figure 10

E. Adobe Salaries were Higher than Industry Averages

58. Exhibit 12 compares annual average Adobe employee base salaries with salaries reported by the U.S. Bureau of Labor Statistics (BLS) during 2001-2009. These data indicate that average base salaries were higher at Adobe than in the relevant benchmark labor markets every year from 2001 to 2009. They also indicate that average salary growth at Adobe during this period was greater than or equal to that which occurred in broader labor markets for every year except 2004 and 2009. Hence, there is no evidence that Adobe paid salaries to its employees that were below the salaries

prevailing elsewhere.[62] This evidence, in turn, indicates that the alleged conspiracy had no material affect on Adobe employees' compensation.

F. Adobe Employees' Compensation was Impacted by Reasons Entirely Unrelated to the Agreement between Apple and Adobe

59. Adobe-specific documentary evidence shows that during the time period covered by this case, Adobe employees' compensation varied for reasons entirely unrelated to the agreement between Apple and Adobe. These reasons are as follows:[63]

i. In 2005, Adobe budgeted 5% merit-based salary increases companywide, including 4.5% for U.S. employees.[64] Adobe also [redacted] throughout the company, which affected salary ranges. To illustrate, [redacted], thereby reducing the combined midpoints of the salary ranges. This change, however, had a positive or neutral impact on most employees.[65] In December 2005 Adobe acquired the firm Macromedia, which added about 1,200 employees to Adobe's approximately 4,800-member workforce.[66] Although Macromedia's employees were generally [redacted].[67]

[62] Adobe comprised a very small percentage of the workforce covered by BLS data and therefore had no undue impact on those data.
[63] See Appendix 1 for a timeline displaying this evidence.
[64] Exhibit 1 to Morris Declaration. The salary budgets included salary adjustments made to bring employees (excluding low performers) up to the minimums of their respective salary ranges before applying merit increases and promotions during Adobe's Focal. *Id.*
[65] Exhibit 2495.
[66] Morris Deposition pp. 47–50; Morris Declaration ¶ 35.
[67] Morris Declaration ¶ 35.

ii. During 2006, Adobe continued to make compensation policy and practice changes as a result of the Macromedia acquisition.[68] For example, Adobe adopted the Performance Share Program "to align the new leadership team to achieve key integration milestones and create stockholder value to retain key executives."[69] The 2006 budget for merit-based salary increases was 5.2% worldwide and 4.6% for U.S. employees.[70] In September 2006, Adobe instituted a hiring freeze.[71]

iii. During 2007, Adobe [redacted].[72] In this regard, Adobe decided that [redacted], would help the company attract and retain employees.[73] The budget for merit-based salary increases was 3.4% worldwide and 3.2% for U.S. employees.[74] Adobe also changed the timing of its merit-based salary increases, specifically from June to February, and the 3.4% worldwide salary increase budget was prorated based on a budget of 5.2% if salary raises had not been previously awarded.[75]

iv. During 2008, Adobe increased its target compensation for base salary, incentive pay and equity awards from the 50th to the 65th percentile of the market due to a change from a "lead/lead" approach to a "lead/lag" approach.[76] Adobe

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68 ADOBE_009337.
69 Adobe 10K filed February 5, 2007, pp. 102-103.
70 ADOBE_009337. The worldwide budget included [redacted]. *Id.*
71 ADOBE_025090.
72 Exhibit 3 to Morris Declaration.
73 Exhibit 3 to Morris Declaration.
74 Exhibit 2 to Morris Declaration. These figures do not include [redacted] if that was required. *Id.*
75 Exhibit 2 to Morris Declaration.
76 Streeter Deposition pp. 84–86; ADOBE_015417. As discussed elsewhere in this report, Adobe used Radford surveys to determine external market compensation. Radford surveys reflect year-old data. Under the lead/lead approach, Adobe would first estimate how market compensation had moved in the prior year

continued to provide [redacted].[77] The budget for merit-based salary increases was 5.5% worldwide and 4.9% for U.S. employees.[78] In October 2008, when the deepening economy wide recession became more apparent, Adobe implemented a hiring freeze.[79]

v. During 2009 and similarly in response to deepening recession, Adobe revised its Total Rewards program.[80] The company replaced its profit sharing program with discretionary bonuses[81] and [redacted].[82] [redacted].[83] Further, in October 2009, Adobe acquired Omniture, which added approximately 1,000 employees to its workforce.[84]

vi. During 2010 Adobe's performance improved and, as a result, the company [redacted].[85] The company also [redacted], budgeting 4.3%

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since the surveys were compiled, and then project how market compensation would move in the following year, setting the midpoint of its salary ranges at 50% of the projected market compensation. Exhibit 2486. Under the lead/lag approach, Adobe would just do the first estimate—how the market had moved in the prior year—and then set the salary range midpoint at 65% of the estimated amount without performing a second projection. Exhibit 300. Adobe found that this process was simpler and yielded roughly equivalent results. Streeter Deposition pp. 84–85.

77 ADOBE_015425.

78 ADOBE_101363.

79 ADOBE_013339.

80 Exhibit 219; Morris Deposition pp. 180–86.

81 Morris Deposition p. 183 ("[W]e made the deliberate decision to eliminate profit sharing so that we could save some six to seven hundred employees that we would otherwise have to reduce."); Exhibit 219 ("It is our intent, to increase the utilization of discretionary bonuses based on company performance, and we will reward individuals based on performance. In order to role model this approach, we will be providing a [redacted]."); Exhibit 2801.

82 Exhibit 219; Morris Declaration ¶ 26.

83 ADOBE_014769.

84 Morris Declaration ¶ 36.

85 Exhibit 219.

increases worldwide, 4.2% for individual contributors in the U.S., and 3.5% for mangers in the U.S.[86] In addition, Adobe provided annual equity grants to about half of its employees based on their individual performance, [redacted].[87]

VII. THE RIPPLE EFFECT OF WAGE SUPPRESSION ALLEGED BY PLAINTIFFS DID NOT OCCUR AT ADOBE BECAUSE THE COMPANY DID NOT HAVE A RIGID COMPENSATION STRUCTURE AND BECAUSE ITS COMPENSATION PRACTICES WERE BASED ON PRINCIPLES OF PAY-FOR-PERFORMANCE AND TOTAL REWARDS

60. As discussed above, Adobe did not have a rigid compensation structure. Rather its compensation practices were based on principles of pay-for-performance ("PFP") and total rewards. Individual positions (i.e., jobs) were grouped according to function and annual salary ranges were established for each position.

61. Prof. Hallock asserts, "The Defendants had formalized compensation systems. These include using market surveys, survey data, clear structures, grades and many other features of formalized compensation systems." With regard to Adobe, Prof. Hallock states, "There is evidence that Adobe had formalized compensation systems…Adobe had many job families, many grades within job families and many job titles within grades. Additional data include a variety of compensation structure features including salary min, mid and max information."[88] Here, Prof. Hallock has simply itemized

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[86] Exhibit 2487.
[87] Exhibits 219, 2487, 2488.
[88] Hallock Report, October 27, 2013, p. 12, p. 69. Prof. Leamer similarly concludes that "Defendants had highly structured compensation systems built on a two dimensional matrix with several grades and many titles." However, he also opines, "…each Defendant had a rigid salary structure." *Expert Report of Edward E. Leamer, Ph.D.,* October 1, 2012 ("Leamer Report, October 1, 2012"), pp. 49-50. The word "rigid"

(incorrectly one might add; e.g., Adobe did not use grades) certain characteristics of Adobe's pay system and structure. There is nothing about this system or structure that leads to wage suppression of the type alleged by plaintiffs in this matter, as is further explained below.

62. Adobe has long maintained a pay-for-performance-based compensation system. In essence, pay-for-performance (PFP) means that each employee's compensation was based on and reflected how he or she performed in his/her job. The employee's manager, that is, the individual to whom the employee directly reported, made the assessment of an Adobe employee's performance and did so annually.[89] For this purpose, Adobe used a formal performance evaluation process featuring four categories: high, strong, solid and low.[90] An employee's performance evaluation rating was then used by the employee's manager to determine the change to the employee's base pay (that is, salary); this is typically referred to as a merit pay adjustment.[91] Notably, Adobe also used individual employee performance to determine bonuses and equity (i.e., stock) awards.

63. An understanding of this PFP process and its role in determining Adobe employees' compensation is critical to assessing plaintiffs' claim that a pay increase granted to one

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conveys a pejorative meaning, whereas the word "formal" conveys a descriptive meaning. Therefore, Prof. Leamer seems to reach a value judgment about defendants' compensation systems, whereas Prof. Hallock does not (at least in this respect).

[89] Exhibits 1–5 to Morris Declaration.

[90] Exhibits 1–2 to Morris Declaration. During 2005-2009, this performance evaluation process was labeled "Focal." Interview of Deborah Streeter, Adobe Vice President of Total Rewards, San Jose, CA, November 1, 2013 ("Streeter Interview"), and Streeter Deposition, pp. 161-162. This process was changed after the class period.

[91] Committee on Performance Appraisal for Merit Pay Commission on Behavioral and Social Sciences and Education National Research Council, *Pay for Performance – Evaluating Performance Appraisal and Merit Pay*, National Academy Press, Washington D.C., 1991, which reports that Between 93 and 99 percent of private-sector organizations use performance appraisal plans for their exempt and nonexempt salaried employees, and R.L. Mathis & J.H. Jackson, *Human Resource Management*, 10th Ed. London, UK: Thomson/South-Western, 2003, pp. 336-368.

or more Adobe employees spread or rippled to all other employees. This claim is also made by Prof. Leamer, whose latest report in this matter contains the passage "…spread the impact of the Non-Compete Agreements throughout the Class" and whose initial report in this matter stated, "…the effects on compensation from the Non-Compete Agreements would be broadly experienced by all or nearly all members of the…Class."[92] Similarly, Prof. Hallock claims that "The restrictions could be expected to hamper levels of compensation for those who would have been cold-called and for nearly all Class members…" and that "Agreements such as restrictions on cold-calling could be expected to limit and have negative consequences for those workers involved and for nearly all Class members."[93] Likewise, Prof. Manning asserts that "The damage is likely to have extended to the members of the Class, not just those who would have been cold called or received a counter-offer in the absence of the agreements."[94] Also similarly, Prof. Marx opines that the "agreements were established for the purpose of suppressing compensation" and that the "agreements were not limited to individuals involved in collaborations but rather extend to all employees of the firms involved."[95]

64. This ripple argument may be better understood by using the metaphor of a stone thrown into a pond or lake. The stone will quite likely cause a ripple or two, but will it ripple through the entire pond or lake? Most likely not because other factors (variables), such as stone size, weather conditions, water density, kelp, debris, and fish will limit the ripple effect. Further, and briefly continuing this metaphor, suppose that several stones are thrown into the pond or lake, one of which can be analogized to cold calling and others of which can be analogized to the numerous methods that Adobe used to search for, recruit and identify candidates for employment. Each of these

[92] Leamer Report, October 28, 2013, p. 7, and Leamer Report, October 1, 2012, p. 55.
[93] Hallock Report, October 27, 2013, p. 4. Note that Prof. Hallock did not conduct any empirical analysis in this regard.
[94] Manning Report, p. 3. Note that Prof. Manning did not conduct any empirical analysis in this regard.
[95] Marx Report, October 28, 2013, p. 3.

methods (i.e., stones) conveyed information to prospective employees, which means that such prospective employees were not dependent on a single information source, whether cold calling or another, to make decisions about whether or not to apply for employment with Adobe. Given the flexibility of Adobe's compensation system and the wide variation in compensation among Adobe employees holding the same job titles, there is no reason to believe that plaintiffs' theory of widespread damage is valid or that it would have played out at Adobe. In this regard, it is notable that both Prof. Leamer and Prof. Hallock hedge their bets, so to speak, by referring to "nearly all" Class members. This implies that they don't really know how far the ripple effect extended, even as they say that it extended very far.[96] During his deposition, however, Prof. Leamer testified about the ripple effect as follows: "as it goes through the firm, [it] is going to get smaller and smaller as you get to employees who are more and more distant."[97] He further testified that the ripple effect is eventually "going to get so small, you can't detect it…out there at the edges."[98] In my judgment, the ripple effect of cold calling on Adobe employees' compensation was likely non-existent because Adobe did not follow a policy of granting pay increases to most or all of its employees if a pay increase, whether resulting from cold calling, individual performance or another factor, was granted to one or a few of its employees.

65. Plaintiffs' experts also invoke "internal equity" in their arguments and opinions about the effects of no cold calling on Adobe's (and other Defendants') employee compensation. For example, Prof. Leamer states, "'Internal equity' refers to the tendency of firms to keep compensation packages of different workers roughly in line to minimize the effect on worker morale of adopting a compensation system that

[96] *Deposition of Edward E. Leamer*, October 26, 2012 ("Leamer Deposition, October 26, 2012"), pp. 32:20-33:10: When asked "what percentage are you confident class members were undercompensated," Prof. Leamer responded "most members of each class were undercompensated," meaning "greater than 50%."
[97] *Deposition of Edward E. Leamer*, June 11, 2013 ("Leamer Deposition, June 11, 2013"), p. 549.
[98] *Ibid.*

subsets of workers feel is 'unfair,' which can have an adverse effect on productivity," and "internal equity puts boundaries on the degree to which pay of different employees can diverge, and tends to require maintenance of a rigid compensation structure."[99] In the same vein, Prof. Hallock states, "Issues of internal equity and equity in general were important to the Defendant firms. Whether they used the terms or not, the concepts of internal equity and also generally treating similar employees similarly were important to Defendant firms."[100]

66. When it comes to equity in a compensation context, internal equity can be distinguished from external equity. External equity refers to a company's positioning of its employees' compensation in relation to compensation that prevails in labor markets for the same or similar positions held by those employees. To illustrate, Adobe used Radford compensation surveys as a source of technical employee compensation data and relied on those and other external market data to determine compensation guidelines for the technical and related positions held by its employees.[101] Most established companies did the same, that is, they used one or another survey of external market compensation to obtain information about prevailing market rates for the jobs held by their employees and to determine where to set their own compensation with respect to prevailing market rates. While compensation setting decisions at Adobe and other companies involved making judgments about where to position their compensation in relation to market data, the data themselves were objective, that is, they reflected real labor market behavior.

[99] Leamer Report, October 28, 2013, p. 7.
[100] Hallock Report, October 27, 2013, p. 69.
[101] Morris Declaration. ¶ 19; Streeter Deposition pp. 68-69.

67. By contrast, internal equity is a perceptual rather than a behavioral phenomenon.[102] By this I mean that internal equity is in the eye of the beholder, which in this case refers to employees and, more specifically, to how employees perceive the equity or fairness of their compensation. To determine such internal equity, companies or consulting firms retained by companies often survey employees, asking them various questions about their compensation, including the process through which compensation is determined and the relation of such compensation to compensation prevailing elsewhere, both internally and externally. Companies use these survey data to construct employee engagement, morale or satisfaction scores (or indexes), including about compensation.[103] In this regard, employees' perception of their compensation is not based on what they are paid per se but, rather, on how their compensation compares to that of relevant others, whether inside or outside of their companies.

68. At first glance, plaintiffs' experts appear to agree with the view I expressed above. For example, Prof. Hallock (citing another source) defines equity theory as follows: "A theory proposing that in any exchange relationship (such as employment), the equality of the outcome/input ratios between a person and a comparison other (a standard or relevant person/group) will determine fairness or equity. If the ratios diverge from each other, the person will experience reactions of unfairness and inequity."[104] Prof. Hallock then specifically cites and discusses various Adobe email messages to establish that internal equity was important to Adobe.[105] Prof. Hallock goes on to conclude, "The

[102] See J.S. Adams, *Equity Theory: Towards a General Theory of Social Interaction*. New York. Academic Press, 1976, and E.E. Lawler, III, *Pay and Organizational Development*. Boston, MA: Addison-Wesley, 1981.
[103] Such surveys are frequently referred to as employee engagement surveys, which is the contemporary phrase for what were previously labeled employee morale, satisfaction and/or opinion surveys. See, for example, P. Sanborn and K. Oehler, *2013 Trends in Global Employee Engagement*. AonHewitt and Aon plc, 2013, 28pp. In 2009, Adobe conducted its own Total Rewards Survey that was aimed in part at determining employee perceptions about the relative importance of the components of compensation in the company. See Streeter Deposition p. 121.
[104] Hallock Report, October 27, 2013, p. 29
[105] Hallock Report, October 27, 2013, pp. 29-32.

formalized systems in place relied on structures, external data from the market and the like, and notions of equity were present at Defendants. As a result, those effects cycle on to other employees and their levels of compensation. Therefore the formal compensation structures could be expected to lead to an effect on nearly on Class members."[106] However, apart from the obvious fact that Prof. Hallock does not separate the effects of a formal compensation structure and reliance on external market data from the effects of "notions of equity" on Adobe employee compensation, he somehow assumes that the operative notion of internal equity means that all (or nearly all) Adobe employees' compensation would have been adjusted—raised—as a result of cold calling. This was contrary to Adobe's PFP principle and practice and to Adobe's use of external market data—external equity—to aid in setting compensation for its many different jobs.[107]

69. Similarly, Prof. Leamer states, "'Equitable" compensation practices spread wage increases or reductions across broad categories of workers. This implies that when outside opportunities put pressure at one point in the wage structure calling for higher wages for a few, firms tend to maintain the overall wage structure, rewarding everyone for the improved outside opportunities of some workers." He goes on to say that this reasoning "…drives firms, like the Defendants, toward equitable pay practices that would be expected to spread the impact of an agreement to suppress Cold-Calling across all or almost all workers in a firm."[108] Prof. Leamer does not single out Adobe in this regard. Nonetheless, and as with Prof. Hallock, Prof. Leamer ignores Adobe's PFP principle and practice as well as Adobe's use of external market data—external equity—to aid in setting compensation for its many different jobs. In sum, both Prof. Hallock and Prof. Leamer adopt a narrow, particularized operational definition of "internal equity" to claim that pay increases that would putatively result from cold calls

[106] Hallock Report, October 27, 2013, p. 70.
[107] To illustrate, see the example of [redacted] discussed in section VIC of this report.
[108] Leamer Report, October 1, 2012, pp. 43-44.

made to some employees of other firms would have resulted in a complete, widespread ripple effect on Adobe's technical, creative and R&D employees (and the employees of other companies involved in this litigation). This is an extreme view that I believe is not supported by equity theory or by the evidence in this matter.

70. There is another way that equity is related to the main issue in this case, namely, equity compensation. This phrase is commonly used to refer to a company's stock as a form of employee compensation. Employee stock ownership plans (ESOPs), stock grants and stock options are the main types of equity compensation arrangements used by firms. At Adobe, equity compensation was a component of total compensation for virtually all employees.[109] The actual value of company stock to an employee depends on the difference between the price at which an employee acquired the stock (through purchase, grant or option) and the market price of the stock if and when sold by an employee. Hence, irrespective of the channel/source through which an employee was recruited to and hired by Adobe, a certain portion of his/her compensation was unknown until a later date. The same was true for current Adobe employees when they were awarded stock based on their job performance. For this reason, equity compensation is often referred to as variable compensation or pay at risk.

71. Adobe's compensation system also featured another type of variable compensation, namely, incentive compensation. In general, this phrase encompasses a wide variety of specific compensation plans, including commissions, piece rates, gain sharing and bonuses. At Adobe, incentive compensation took the form of bonuses that were awarded annually or more frequently.[110] Bonuses based on individual employee performance were typically awarded annually, retention bonuses were typically awarded irregularly on an "as needed" basis, team performance bonuses were

[109] Streeter Deposition pp. 45-46.
[110] Exhibits 2, 4, 5 to Morris Declaration.

sometimes awarded annually and sometimes for the completion of specific projects, and spot bonuses were awarded at various times based on individual employee performance on a specific task or project. In some instances, such as the awarding of American Express gift checks, a bonus was referred to as a "recognition bonus."[111] This was consistent with and reflected Adobe's Total Rewards approach to employee compensation (about which more will be said below).[112] Here again, irrespective of the channel/source through which an employee was recruited to and hired by Adobe, a certain portion of his/her compensation was unknown until a later date. The same was true for continuing Adobe employees, who may or may not have been awarded bonuses based on their own and/or their teams' job performance. In sum, a portion, possibly a substantial portion, of Adobe employees' compensation was "at risk" during the class period.

72. Yet another type of variable compensation was in place at Adobe for a while, namely, profit sharing. As its name implies, payouts under a company's profit sharing plan depend largely or entirely on whether or not the company is profitable during the period covered by the plan. If a company is not profitable or not sufficiently profitable (so as to cover its cost of capital, for example), then no profit sharing payments will be made to employees; the converse is true as well. At Adobe, a profit-sharing plan existed until 2009 and covered all of the company's employees.[113] Profit sharing-based payments of various amounts were made to Adobe employees annually during 2005-2008 but not during 2009, when the negative effects of the "Great Recession" were most keenly felt. Consequently, at the end of 2009, Adobe abandoned its profit sharing

[111] Keiper Deposition pp. 28–29; Streeter Deposition pp. 49–50.
[112] Keiper Deposition pp. 88-90, pp. 175–77; *Deposition of Kim Hoffman*, March, 27, 2013 ("Hoffman Deposition") p. 157; Streeter Deposition p. 115; Exhibit 2801; Exhibits 4, 5 to Morris Declaration; Streeter Interview, and Streeter Deposition pp. 49-53.
[113] Morris Declaration ¶ 26; Keiper Deposition pp. 148–149, pp. 186–817; Morris Deposition p. 122; Streeter Deposition pp. 123–124.

plan and replaced it with a discretionary bonus plan.[114] The profit sharing plan has not been reinstated at Adobe.[115] Nonetheless and as with Adobe's equity compensation and incentive compensation plans, the profit sharing plan meant that irrespective of the channel/source through which an employee was recruited to and hired by Adobe, a certain portion of his/her compensation was unknown until a later date—and the same was true for all Adobe employees. Further, Adobe's initial decision to adopt a profit-sharing plan and its later decision to abandon that plan illustrate that each firm makes its own independent decisions about employee compensation and the components of compensation.

73. The aforementioned examples of Adobe's compensation practices and changes in those practices illustrate that the actual amounts of Adobe employees' compensation were unknown when they were hired and unknown thereafter until individual, team and/or company-wide performance was rendered. This is mainly because Adobe used variable compensation or pay at risk as part of its overall compensation strategy, policies and practices, which applied to all Adobe employees. Stated another way, base salary was only one portion or component of Adobe employees' compensation that, as Lewin and Mitchell (1995) point out, constitutes payment for time (i.e., showing up to work).[116] The other components of Adobe employees' compensation, specifically, incentive compensation and equity compensation, constituted payment for output or, as sometimes referred to, variable pay or pay at risk type compensation,[117] the payments for which (in the case of bonuses) and the returns to which (in the case of gains from

[114] Exhibit 219. Eliminating profit sharing allowed Adobe to save 600 – 700 employees that would otherwise have been let go. Morris Deposition p. 183. Eliminating profit sharing was also consistent with Adobe's emphasis on performance-based programs. Exhibit 216; Keiper Deposition pp. 186–187.
[115] Morris Declaration ¶ 26; Streeter Deposition pp. 123–124; Streeter Interview, Streeter Deposition pp. 123-125, and Keiper Interview.
[116] D. Lewin and D.J.B. Mitchell, *Human Resource Management: An Economic Approach*, 2nd Ed. Cincinnati, OH: South-Western, 1995, pp. 207-249.
[117] *Ibid.*

employee sale of Adobe stock) were not known when an employee was hired or, for continuing employees, until the end of the company's fiscal reporting period.

74. This analysis indicates that, contrary to plaintiffs' experts' conclusions and opinions, Adobe did not maintain a rigid, inflexible compensation system. To the contrary, it maintained a flexible compensation system characterized by a multifaceted Total Rewards approach featuring [redacted], and by a PFP approach to determining changes in base pay.[118] When one of these components, such as the profit sharing plan, seemed not to work well or to have run its course, Adobe abandoned it and replaced it with another. Plaintiffs' experts ignore these Adobe-specific facts. Furthermore, careful consideration of these facts indicates that plaintiffs' experts' focus on base salary alone in their application of internal equity theory to this case is overly narrow and, even more, miscast.

75. Consider, for example, that Adobe's incentive compensation and equity compensation plans applied to all of its employees. Decision making responsibility for evaluating employee job performance and determining changes to employees' base pay and bonus payments was delegated to Adobe managers, who exercised independent judgment and discretion in doing so. For example, in January 2009, there were 600 Adobe technical, creative and R&D employees with management responsibility, including the responsibility for evaluating their subordinates and determining compensation changes for those subordinates.[119] Such devolution of decision making responsibility runs counter to plaintiffs' experts' claim that a pay increase granted to one employee

[118] Exhibit 216; Morris Declaration ¶¶ 5–6; Exhibit 3 to Morris Declaration (FY07 Incentive Program Updates listing types of compensation).

[119] Employees with management responsibility are defined as those with AAP_Code_Description equal to Supervisor (130), Manager (338), Senior Manager (65), Director (66), or Executive (1). The numbers of employees in each category are in parentheses.

(whether resulting from a cold call or otherwise) resulted in pay increases for all employees. Indeed, the multifaceted components of Adobe's compensation system—base pay, bonuses and equity awards—were used to differentially reward especially valued employees without doing the same for other employees. Moreover, the wide range of actual individual compensation, from base salary to equity grants, indicates that Adobe's compensation system supported and accommodated differentiated employee compensation. Figure 11 below shows the numbers of Adobe employees that received any or all of four types of compensation, that is, base salary, bonus, stock options, and stock shares, between 2001 and 2011.[120]

Components of Total Compensation
Technical Class Only

[redacted]

Figure 11

76. Adobe's compensation practices and, more broadly, its human resource management practices, which encompassed career development, promotion paths, flexible work

[120] Source: Adobe employment data (includes Employee ID records for December only).

arrangements (including telecommuting), vacations, various other fringe benefits, and more, can be additionally analyzed using the concept of internal labor markets (ILMs). There is a substantial research literature on ILMs that appears to be ignored by all of plaintiffs' experts.[121] This literature tells us that whereas external labor markets are fundamentally used to match job applicants with job vacancies, that is, traditional labor market exchanges or transactions, ILMs are fundamentally used by firms and employees to invest in firm-specific human capital and to "source" current employees as future managers and organizational leaders. This is especially likely to occur in firms that progress from the start-up phase to the growth phase of their organizational life cycles—in other words, firms such as Adobe.

77. Firms that rely on/use ILMs typically have formal compensation systems, formal performance evaluation systems, and numerous other formal arrangements pertaining to terms and conditions of employment and the management of human resources more broadly. From this ILM perspective, Adobe was an intra-organizationally competitive organization in which employees competed for compensation, promotions and other rewards based on their performance. This means among other things that Adobe employee compensation did not follow a lock step approach in which a pay increase granted to one or a few employees was automatically extended to most or all employees. To the contrary, Adobe's PFP-based compensation system was designed and intended to draw distinctions among employees based on their relative job performance.

[121] See P.B. Doeringer and M.J. Piore, *Internal Labor Markets and Manpower Analysis*. Lexington, MA: Heath, 1971, and P. Osterman, Ed., *Internal Labor Markets*, Cambridge, MA: MIT Press, 1984.

VIII. PROF. LEAMER'S DAMAGE ANALYSIS CONTAINS MAJOR FLAWS AND HIS CONCLUSIONS ARE INCONSISTENT WITH THE REALITIES AND FUNCTIONING OF ADOBE'S LABOR MARKETS

A. Overview of Prof. Leamer's Analysis

78. Prof. Leamer develops a class-wide (notably *not* firm-specific) damages estimate based on an econometric regression model that includes all Defendants simultaneously. His model contains variables that purport to capture persistence[122], worker effects[123], industry effects[124], employer effects[125] and, in particular, CONDUCT[126], to estimate the specific impact that the alleged conspiracy had on employee compensation during the class period. In his report, Prof. Leamer indicates that his CONDUCT variable is interacted with three variables to allow for the possibility that the agreements had effects that varied over time, across firms and across individuals.[127] Firm-specific conduct is accounted for through the CONDUCT variable only as it relates to a firm's hiring rate.[128]

79. Prof. Leamer's initial econometric analysis was not clustered and consequently suffered from autocorrelation, which overestimates the standard error estimates.[129] Prof. Leamer acknowledged this problem but dismissed its importance, saying, "none

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[122] This includes compensation in the previous two years. Leamer Report, October 28, 2013, p. 9.
[123] These include age and gender of the worker, worker tenure and location differences. Leamer Report, October 28, 2013, p. 9.
[124] These include employment in the information sector in San Jose MSA and Defendant hiring. Leamer Report, October 28, 2013, p. 9.
[125] These include firm revenue and firm hiring. Leamer Report, October 28, 2013, p. 9.
[126] CONDUCT is a dummy variable which takes on a value of one in the years when a defendant had a Non-Compete Agreement. Leamer Report, October 28, 2013, p. 9.
[127] Leamer Report, October 1, 2012, p. 64. Leamer Report October 28, 2013, pp. 16-17. "The regression allows the impact of the challenged conduct to vary by firm, by year, and by the individual employee's age (as a proxy for their career experience)."
[128] Leamer Deposition, November 18, 2013, p. 1060:3-11.
[129] Leamer Report, October, 28 2013. Exhibit 2.

of my opinions is [sic] reliant on the standard errors".[130] He later said, "a damages estimate with a large standard error will still be the best estimate, unless there is a more accurate alternative."[131] Prof. Leamer ultimately corrected his model and his most recent analyses indicate that 13 of the variables (roughly one-third of all variables) included in his model are statistically insignificant, compared to only three insignificant variables in his original regression analyses (i.e., the ones which were based on incorrect standard error calculations).[132]

80. Most important for the case at hand, two of the statistically insignificant variables in Prof. Leamer's most recent regression analyses are CONDUCT variables. Untroubled by this key change in the results of his regression analysis, Prof. Leamer persists in using the statistically insignificant CONDUCT variable coefficients to estimate damages in this matter.

81. Prof. Leamer estimates class wide damages of $3.1 billion, with $175 million attributable to Adobe. (See Exhibit 13).[133]

B. Prof. Leamer's Results are Not Reasonable on Their Face and Should be Disregarded

82. Since data can often be tortured into yielding a desired result, before delving into the technicalities of an econometric model, the actual findings (outputs) should be considered and carefully interpreted, with a particular focus on vetting any findings (outputs) that defy sound economic theory and reasoning. The following examples are illustrative.

[130] Leamer Report, October 28, 2013, p.11.
[131] *Ibid*, p. 11.
[132] *Ibid*, Exhibit 2, 3.
[133] Although Prof. Leamer claims his estimated damages cannot be disaggregated, his damages calculations are nevertheless calculated at the class member level and can therefore be attributed to certain firms.

83. First, Prof. Leamer's model indicates that ten specific Adobe employees, who earned [redacted] per year on average, were collectively paid over [redacted] during the class period and are alleged to have suffered damages of $7.2 million; see Table 3.[134] It is most unlikely that such highly paid individuals depended to any degree on cold calls from a single firm, such as Apple, to assess their value in the market place. In my experience, highly paid individuals typically have a clear sense of market value. It is intuitively and analytically difficult to comprehend that these individuals experienced compensation suppression due to the lack of receiving cold calls from Apple while all other sources of cold calls, at a minimum, were unaffected by the alleged conspiracy. Indeed, to the extent that other Defendants could not make cold calls to certain other Defendants per the bilateral agreements, the number of cold calls from other Defendants to Adobe employees may have increased because they had an incentive to redirect their calls to Adobe.

[134] The most recent job title while being a member of the technical class held by each of the ten Adobe employees with the highest overall differences amount, including employees who were no longer employed or part of the class at Adobe in 2009. The overall total compensation of each employee during the period for which Prof. Leamer estimates compensation for each class member. Does not include compensation earned while an employee is not designated a class member.

Top 10 Overall Differences Amount

[redacted]

Table 3

84. Second, at the other end of the spectrum, two named plaintiffs, Marshall and Devine, were allegedly damaged by an estimated $2,176 and $23,859, respectively. While they are named plaintiffs, they surely are not representative of the aforementioned top 10 Class members or of Class members more broadly. In addition, there are 27 class members who worked for one month at Adobe during the class period, yet they have estimated positive damages. It is difficult to comprehend how individuals who worked only for a single month at Adobe (or another Defendant firm) and who quickly exited from that employment were not aware of their worth in the marketplace.

C. Prof. Leamer's "Preliminary Informal Impact Assessment" is Misleading

85. Prof. Leamer's impact and damages analysis begins with a "preliminary informal impact assessment" for all employees of the seven defendants wherein he compares the rate of growth of compensation between 2005 and 2007 to a benchmark (the average change of total compensation for 2004 and 2011), and calculates a cumulative "undercompensation" of 12.9%.[135] Replicating Prof. Leamer's method for the Technical Class results in a cumulative "undercompensation" of 13.6% for all Defendants; see Exhibit 14A. Prof. Murphy also replicated this analysis while disaggregating by defendant and showed that, when viewed at the defendant level, some Defendants had higher growth in 2005-2007 compared to Prof. Leamer's benchmark—i.e., it showed a cumulative "overcompensation" in Prof. Leamer's words. Disaggregating the results for the Technical Class or excluding defendants from the analysis leads to similar results; see Exhibit 14B. As Exhibit 14B shows, Adobe's change in average compensation was higher between 2005-2007 than in the benchmark period—i.e., Adobe had cumulative "overcompensation when Prof. Leamer's preliminary assessment method is used."[136]

86. As Prof. Leamer admitted, this analysis is incapable of estimating or predicting impact or damages[137] in part because it doesn't control for the changes in compensation growth at each defendant. Exhibits 14B-14D show that pooling or aggregating data across firms to estimate impact or damages is misleading because it hides substantial variation and dissimilarity across firms.[138] As I discuss below, he engages in the same misleading analysis with his conduct regression.

[135] Leamer October 1, 2012, page 63-64.

[136] It is beyond the scope of this report to identify the reasons for changes in Intel's or Google's compensation. But given the extremely small amount of cross-hiring between those companies and the limited scope of the alleged DNCC agreement between them, there is no reason to think that the agreement was the reason for the change in Intel's or Google's compensation, any more than the existence of the Apple/Adobe agreement could have been the cause of the growth in Adobe's compensation.

[137] Leamer Deposition, November 18, 2013, 1127:23-1128:3.

[138] Leamer Deposition, November 18, 2013, 1127:16-22.

D. Prof. Leamer's Model Artificially Shifts Damages from one Firm to Another

87. Like his preliminary assessment, Prof. Leamer improperly constructed his model so that it hides or ignores any differences across defendants.[139] Specifically, he constrained his model by using four improperly specified CONDUCT variables: first, a single dummy variable (what he calls the "CONDUCT" variable), which forces the model to estimate a single average percentage impact for employees across all defendants using the compensation data of all defendants, and then three additional CONDUCT variables that allow the conduct effect to vary by age and across firms by hiring rate.[140] Constraining the CONDUCT effect to only vary across firms by hiring rates assumes that the impact of the conduct would be the same or substantially similar across firms except as affected by hiring rates. For example, assuming that two firms have approximately equal hiring rates in one year, his model is unable to capture any other conduct effect due to other firm-specific variation (i.e., regardless of whether a firm has multiple agreements such as Apple, or a single agreement such as Adobe; their compensation structure; their relative sizes, etc.). In effect, by pooling the compensation data of all seven defendants and not allowing firm-specific conduct effects, he is using the changes in compensation of all defendants to estimate a single average percentage impact that only captures a portion of how the conduct effect varies by firm. Even Prof. Leamer agrees that the effects of the agreements vary across firms for reasons other than hiring rates.[141]

88. In my opinion this is highly problematic and is a serious shortcoming to his approach. Prof. Leamer fully recognizes this flaw in his approach and stated that ideally he would have allowed disaggregation by Defendant to occur (i.e., allow the regression to

[139] Leamer Deposition, November 18, 2013, 1070:21-1071:12.
[140] Leamer Deposition, November 18, 2013, 1060:3-11.
[141] Leamer Deposition, November 18, 2013, 1118:7-10.

measure the impact separately for each defendant).[142] Unfortunately, as he admitted at deposition and in his Reply report, his model is over-parameterized (i.e., he has included too many variables), and the model cannot be estimated at the firm level.[143] What he should have done was to start with a separate model for each defendant. And if he could not estimate a statistically valid regression, he should have admitted that it was not possible, rather than pooling data across seven disparate companies and using non-Adobe compensation data to estimate the impact of the alleged agreement.

89. Prof. Murphy performed a sensitivity test in which he removed several variables that had an immaterial impact on the regression results (Murphy Appendix 10) to make room for adding Defendant-specific conduct variables to allow the regression to measure Defendant-specific conduct effects - and presents his results in Appendix 11B to his report. Murphy Appendix 11B showed that the estimated conduct effect for each Defendant was not similar and, in fact, several coefficients were estimated to be positive. For example, the partially disaggregated model showed that Adobe and several other defendants "overcompensated" their employees as a result of the conduct. When queried about whether a firm-specific conduct variable could have a positive coefficient Prof. Leamer replied:

> I think the estimate that the data suggests is an overcompensation, but that's not a plausible estimate. We can agree on that. This firm -- these agreements didn't raise the salaries of the affected workers. So then the question is how you turn that .0175 into a number that's appropriate to the context. The context is to get some negative coefficient, we want to know how much the compensation was reduced, if any.[144]

90. In other words, Prof. Leamer chose to ignore what the data was plainly telling him: that the estimated conduct effect was not similar or the same for all firms and constraining

[142] Leamer Deposition, November 18, 2013, 1010:4-6; 1064:13-18; and 1150:14.
[143] Leamer Deposition, November 18, 2013 1010:4-10
[144] Leamer Deposition, November 18, 2013, 1060:19-1061:1.

the model to have a single conduct effect interacted with hiring rate hides the substantial differences across firms. Prof. Leamer further justified his “similarity” assumption by stating that his model prevents certain Defendants from getting “picked on”.[145]

91. To test whether Prof. Leamer’s similarity assumption is supported in the data, I ran Prof. Leamer’s model excluding Adobe in two ways. One would expect that removing one defendant, like Adobe, from the regression would have no significant impact on the estimated conduct effect and should result in reduced estimated damages.

92. First, I excluded Adobe’s compensation data but left unadjusted the macro variables that center and rely on all seven defendants; see Exhibit 15. By making this change, Adobe’s compensation data is not being used to estimate the impact of the conduct at any other defendant. Removing Adobe in this way results in estimated damages *increasing* by $100 million. Second, I run the regression excluding Adobe completely from the model, removing all Adobe data and adjusting the macro variables to center and rely on only the six remaining defendants; see Exhibit 16. This model in effect assumes that Adobe did not participate in the alleged conspiracy and was cold-calling. Once again estimated overall undercompensation increases, but this time by $800 million because the estimated conduct effect is now higher. The implication is that, if Adobe was in fact part of the alleged conspiracy, it caused damages to decrease by $800 million. These results defy logic and demonstrate that Prof. Leamer’s model is inconsistent with his proposed theory of damages. It is also proof that Prof. Leamer’s assumption that the conduct effect is similar across firms (and only varies by hiring rate) is not justified by the data and this assumption is incorrect.

[145] Leamer Deposition, November 18, 2013, 1070:21-1071:12

93. By developing a model that cannot be disaggregated, Prof. Leamer ignores all Defendant anomalies, including variation showing that Adobe was not like the other Defendants. Prof. Leamer admitted that he did not study important events in Adobe's history, such as the Macromedia acquisition, in terms of their effects on employee compensation, claiming that it was not material to the task he carried out.[146] I therefore conclude that Prof. Leamer's model did not control for Adobe-specific events, as one should do, and that this omission prevents him from understanding Adobe's compensation system, structure and practices.

94. In sum, these varied "real world" phenomena are unaddressed by Prof. Leamer's econometric model, its Class-wide definition, and its theoretical assumptions.

E. Prof. Leamer's Correlation Analysis is Not Proof of a Rigid Compensation Structure

95. Prof. Leamer performed several correlation and regression analyses based on the average compensation among different job titles within each Defendant, including Adobe.[147] He claims that the resulting positive correlation coefficients reveal a "semi-rigid" compensation structure. Although the phrase "semi-rigid" is not clearly defined in Prof. Leamer's report, it is nevertheless important to explicitly state the hypothesis being tested at the outset of any analysis. In this instance, a "rigid" or "semi-rigid" compensation structure can be defined as a compensation structure in which a raise for one or some employees results in a raise for all employees (which, in effect is an argument made by Prof. Leamer and other of plaintiffs' experts).

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146 Leamer Deposition, November 18, 2013, 986:15-987:19.
147 Supplemental Expert Report of Edward E. Leamer, May 10, 2013, pp. 6-8.

96. The results of Prof. Leamer's correlation analysis simply show that positive changes in one job title's average compensation are correlated with positive changes in average compensation for the rest of the technical class. But that does not show or prove that changes in individual compensation caused changes to compensation other others in a job title, across job titles or to every employee in the class. By relying on averages, he ignores the individual variation in pay of Adobe employees. As noted above, examining the data shows individualized compensation patterns that undermine Prof. Leamer's argument. Given that the variation in individual employee job performance and compensation was subsumed (in other words: ignored) by Prof. Leamer's averaging approach, these results are hardly compelling evidence or evidence at all of a rigidly or semi-rigidly enforced compensation policy at the individual employee level. Noting that average compensation of a job title increases tells you nothing about whether each individual in the job title received an increase or the reasons why. Rather, the correlation of average compensation is attributable to some factors that are common to compensation like overall company performance, industry performance and macroeconomic variables.

Respectfully submitted,

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David Lewin, Ph.D.
November 25, 2013

Exhibit 1

Professor David Lewin, Ph.D.
(Abridged CV)

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BIO/SUMMARY

Professor Lewin is a director of BRG, National Head of the Firm's Labor & Employment practice, and the Neil H. Jacoby Professor Emeritus of Management, Human Resources and Organizational Behavior at the UCLA Anderson Graduate School of Management. He has provided expert testimony in numerous labor and employment matters involving age, gender, race and religious discrimination, wrongful termination, executive compensation, employee compensation, performance management, wages and hours, and independent contractor vs. employee status. In these areas, Dr. Lewin has often designed and analyzed data obtained from survey questionnaires, interview protocols, and observational studies as well as from secondary sources. He also consults widely on human resource management issues and practices with companies in the U.S. and abroad. Dr. Lewin has published many books and journal articles on human resource management, employee relations, labor markets and compensation. His books include *Human Resource Management: An Economic Approach*; *The Oxford Handbook of Participation in* Organizations; *Contemporary Issues in Employment Relations*; *The Human Resource Management Handbook*; and *Advances in Industrial and Labor Relations, Volume 20.* Dr. Lewin serves on the editorial boards of *Industrial Relations*, *Industrial and Labor Relations Review*, *California Management Review*, and *Journal of Change Management*, and is Senior Editor of *Advances in Industrial and Labor Relations.* He is a Fellow and member of the Board of Directors of the National Academy of Human Resources (NAHR). During 2001-2009, he served as a member of the Board of Directors of K-Swiss, Inc., member of the Board's Compensation and Stock Options Committee, and member of the Board's Governance Committee. During January 2012-June 2013, he served as President of the national Labor and Employment Relations Association (LERA). He presently serves as faculty director of the UCLA Anderson School Advanced Program in Human Resource Management. Prior to joining UCLA, Dr. Lewin served as Professor, Director of the PhD Program, Director of the Human Resources Research Center, and Faculty Director of the Senior Executive Program at the Columbia University Graduate School of Business.

EDUCATION

Ph.D. – 1971, UCLA (Management)
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MBA – 1967, UCLA
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PRESENT POSITIONS

Neil H. Jacoby Professor Emeritus of Management, Human Resources & Organizational Behavior, UCLA Anderson School of Management

Director and National Head of the Labor & Employment Practice, Berkeley Research Group, LLC.

Member, Board of Directors, National Academy of Human Resources (NAHR).

SELECTED EXPERT RETENTIONS

Dr. Lewin has been retained 274 times as an expert in labor and employment litigation. He submitted written reports and declarations in more than 150 of these cases, rendered deposition testimony in 87 of these cases, and testified at trial and arbitration hearings in 48 of these cases. Listed below are some of the cases in which he has been retained as an expert during the past five years.

2013. High Tech Employee Antitrust Litigation (Adobe Systems, Inc.); no cold call agreement and compensation suppression; Jones Day; defendant; San Francisco, CA.

2013. Thornhill v. Wilson; executive compensation; Munger, Tolles & Olson and Rick Edwards, Inc.; defendant; Los Angeles, CA.

2013. Parmenter v. Farmers Insurance Group, Inc.; wrongful termination; Tharpe & Howell; defendant; Los Angeles, CA.

2013. U.S. ex rel. Leveski v. ITT Educational Services; enrollment counselor and financial aid advisor compensation and DOE funding; Gibson, Dunn & Crutcher; defendant; Lafayette, IN.

2013. Roth v. Roth & World Oil Corp.; executive compensation; Munger, Tolles & Olson and Gibson, Dunn & Crutcher; defendant; Los Angeles, CA.

2013. Small v. University Medical Center of Southern Nevada; meal and rest breaks; Tostrud Law Group and Glancy, Binkow & Goldberg; plaintiff; Las Vegas, NV.

2013. De La Rosa v. White Memorial Medical Center and Adventist Health Care/West; wrongful termination; Moore McLennan; defendant; Los Angeles, CA.

2012. Microsoft and SAP v. DataTern, Inc.; survey design and analysis; McCarter English; defendant; New York, NY.

2012. SEC v. Landan and Mercury Interactive, Inc.; stock option backdating; Sullivan & Worcester, Orrick, Herrington & Sutcliffe, Sherman & Sterling and Law Offices of KC Maxwell; defendant; San Jose, CA.

2012. Pexa v. Farmers Insurance Group, Inc.; independent contractor versus employee status; Dowling Aaron, Inc. and Barger & Wolen; defendant; report; **trial testimony**; Sacramento, CA.

2012. Truong, et al. v. Allstate Insurance Company; incentive compensation and performance management; Modrall, Sperling, Roehl, Harris & Sisk; defendant; Albuquerque, NM.

2011. Shin v. Farmers Insurance Group, Inc.; independent contractor versus employee status; Locke Lord; defendant; Los Angeles, CA.

2011. Fallon v. Fallon; divorce proceeding and management control; Baker & Hostetler; defendant, Santa Ana, CA.

2011. Robles v. Tuesday Morning, Inc.; exempt, non-exempt status; Fulbright & Jaworski; defendant; report; **trial testimony**; San Rafael, CA.

2011. Glover-Hale, Khan, Montoya, Taylor, et al. v. Autozone, Inc.; exempt, non-exempt status; Keller Rohrback; plaintiff; Prescott, AZ

2011. Ellis, Wilkerson, et al. v. Les Schwab Tire Company of Portland, Inc.; exempt, non-exempt status; Perkins Coie and Winterbauer & Diamond; defendant; Multnomah County, OR.

2011. Garcia, et al. v. Oracle Corporation; exempt, non-exempt status; Goldstein, Demchak, Baller, Borgen & Dardarian; plaintiff; Alameda County, CA.

2011. Narayan, et al. v. EGL, Inc. and CEVA Freight, LCC; independent contractor versus employee status; Hinton, Alpert & Kaufmann, Altshuler Berzon, and Patten, Faith & Sandford; plaintiff; declaration; *deposition*; San Jose, CA.

2011. Frazier v. Roll International Corporation; employee termination and human resource management practices; **hearing testimony**; Roll Law Group; defendant; Bakersfield, CA.

2011. Ross v. Atmel Corporation; executive termination and stock option compensation; Morrison & Foerster; defendant; *deposition*; Santa Clara, CA.

2010. Soutas v. Tuesday Morning, Inc.; exempt, non-exempt status; Fulbright & Jaworski; defendant; report; **trial testimony**; San Mateo, CA.

2010. McInerney, Zand, et. al. v. Heartland Payment Systems; compensation and expense reimbursement; Gordon & Rees; defendant; San Francisco, CA.

2010. Greenspan, Trustee of People's Choice Home Loan, Inc. v. Kornswiet, et al.; executive compensation; Kirkland & Ellis; defendant; Santa Ana, CA.

2010. Johnson, et. al. v. California Pizza Kitchen (consolidated cases); hours shaving; Loeb & Loeb and Jones Day; defendant; report; *deposition;* Los Angeles, CA.

2010. Baylor v. National Basketball Association (NBS) & Los Angeles Clippers; age discrimination and wrongful termination; Manatt, Phelps & Phillips and Proskauer Rose; defendant; Los Angeles, CA.

2010. Nichols v. The Management Company; exempt, non-exempt status; Rutan & Tucker; defendant; *deposition;* San Francisco, CA.

2010. Novartis Wage and Hour Litigation; exempt, non-exempt status; Kaye Scholer and Cravath, Swaine & Moore; defendant; report; New York, NY.

2009. Martinez, et al. v. Allstate Insurance Company; incentive compensation and performance management; Sonnenschein, Nath & Rosenthal, Steptoe & Johnson, and Modrall, Sperling, Roehl, Harris & Sisk; defendant; report; **trial testimony**; Santa Fe, NM.

2009. Antrim, et al. v. Tuesday Morning; overtime, meal and rest break compensation and exempt, non-exempt status; Fulbright & Jaworski; defendant; report; **trial testimony**; Orange County, CA.

2009. Kairy, et al. v, Suppershuttle International; independent contractor versus employee status; Marron & Associates and Morgan, Lewis, Bockius; defendant; report; San Francisco, CA.

2009. Nettles, Czarnecki, et al. v. Allstate Insurance Company; compensation and exempt, non-exempt status; Sonnenschein, Nath & Rosenthal and Kirkland & Ellis; defendant; responses to interrogatories; **trial testimony**; Chicago, IL.

2009. Equal Employment Opportunity Commission (EEOC) v. L&T International Corp., et al.; national origin discrimination and employment termination; EEOC; plaintiff; Northern Marianas Islands.

2009. Hendow, Albertson, et al. v. University of Phoenix; enrollment counselor compensation and DOE funding; Gibson, Dunn & Crutcher; defendant; report; Marin, CA.

SELECTED PUBLICATIONS

Books:

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DEPOSITION AND TRIAL TESTIMONY, 2009-2012

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2009. Arsenian v. WI Simonson Mercedes Benz; gender discrimination and employment termination; Fine, Boggs & Perkins; defendant; *deposition*; Santa Monica, CA.

2009. Prager v. Chainford Corp.; economic loss and breach of contract; Kalisch Rufus-Isaacs, LLP; plaintiff; *deposition*; Los Angeles, CA.

2009. Nettles, Czarnecki, et al. v. Allstate Insurance Company; compensation and exempt, non-exempt status; Sonnenschein, Nath & Rosenthal and Kirkland & Ellis; defendant; responses to interrogatories; **trial testimony**; Chicago, IL.

2009. Antrim, et al. v. Tuesday Morning; overtime, meal and rest break compensation and exempt, non-exempt status; Fulbright & Jaworski; defendant; **trial testimony**; Orange County, CA.

2009. Martinez, et al. v. Allstate Insurance Company; incentive compensation and

performance management; Sonnenschein, Nath & Rosenthal, Steptoe & Johnson, and Modrall, Sperling, Roehl, Harris & Sisk; defendant; report; **trial testimony**; Santa Fe, NM.

2010. Nichols v. The Management Company; exempt, non-exempt status; Rutan & Tucker; defendant; *deposition;* San Francisco, CA.

2010. Runnings, Ruiz, et al. v. Dollar Tree Stores, Inc.; exempt, non-exempt status; Scott Cole & Associates; plaintiff; declaration; *deposition;* San Francisco, CA.

2010. Soutas, Carol v. Tuesday Morning, Inc.; exempt, non-exempt status; Fulbright & Jaworski; defendant; report; **trial testimony**; San Mateo, CA.

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2011. Johnson, et. al. v. California Pizza Kitchen (consolidated cases); hours shaving; Loeb & Loeb; defendant; report; *deposition;* Los Angeles, CA.

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2011. Narayan, et al. v. EGL, Inc. and CEVA Freight, LCC; independent contractor versus employee status; Hinton, Alpert & Kaufmann, Altshuler Berzon LLP, and Patten, Faith & Sandford; plaintiff; declaration; *deposition*; San Jose, CA.

2011. Alonzo, et al. v. Maximus; wage statements and failure to pay; Spiro, Moss & Barness; plaintiff; declaration; *deposition*; Los Angeles, CA.

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2011. Robles v. Tuesday Morning, Inc.; exempt, non-exempt status; Fulbright & Jaworski; defendant; report; **trial testimony**; San Rafael, CA.

2011. Singh and Reichelt v. Tuesday Morning, Inc.; exempt, non-exempt status; Fulbright & Jaworski; defendant; declaration; **trial testimony**; Oakland, CA.

2012. Bailey v. Les Schwab Tire Centers, Inc.; exempt, non-exempt status; Foster Employment Law; defendant; *deposition*; Santa Rosa, CA.

2012. Pexa v. Farmers Insurance Group, Inc.; independent contractor versus employee status; Dowling Aaron, Inc. and Barger & Wolen, LLP; defendant; report; **trial testimony**; Sacramento, CA.

November 2013

Exhibit 2
Materials Considered

Reports	**Date**
Expert Report of Edward E. Leamer and Figures	10/1/2012
Reply Expert Report of Edward E. Leamer and Figures	12/10/2012
Supplemental Expert Report of Edward E. Leamer and Exhibits and Figures	5/10/2013
Rebuttal Supplemental Expert Report of Edward E. Leamer and Figures	7/12/2013
Expert Report of Edward E. Leamer and Exhibits and Figures	10/28/2013
Expert Witness Report of Kevin F. Hallock and Figures	5/10/2013
Expert Witness Report of Kevin F. Hallock and Figures	10/27/2013
Expert Report of Alan Manning	10/28/2013
Expert Report of Matthew Marx	10/28/2013
Expert Report of Kevin M. Murphy and Appendices and Exhibits	11/12/2012
Supplemental Expert Report of Kevin M. Murphy and Appendices and Exhibits	6/21/2013
Expert Report of Kathryn Shaw and Appendices	6/21/2013

Depositions and Exhibits	**Date**
Deposition of Alan Manning and Exhibits	11/14/2013
Deposition of Brandon Marshall and Exhibits	10/22/2012
Deposition of Bruce Chizen and Exhibits	3/15/2013
Deposition of Deborah Streeter and Exhibits	4/5/2013
Deposition of Digby Horner and Exhibits	3/1/2013
Deposition of Donna Morris and Exhibits	8/21/2012
Deposition of Edward E. Leamer, Volume 3 and Exhibits	11/18/2013
Deposition of Edward Leamer, Volume 2 and Exhibits	6/11/2013
Deposition of Edward Leamer, Volume 1 and Exhibits	10/26/2012
Deposition of Jeffrey Vijungco and Exhibits	10/5/2012
Deposition of Jerry Sastri and Exhibits	3/8/2013
Deposition of Kevin Hallock and Exhibits	6/7/2013
Deposition of Kevin Hallock, Volume 2 and Exhibits	11/17/2013
Deposition of Kim Hoffman and Exhibits	3/27/2013
Deposition of Michael Devine and Exhibits	10/24/2012
Deposition of Rosemary Arriada-Keiper and Exhibits	3/28/2013
Deposition of Shantanu Narayen and Exhibits	2/28/2013

Documents

Adobe

ADOBE_000421
ADOBE_000422
ADOBE_000622
ADOBE_000853
ADOBE_001092
ADOBE_001095
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ADOBE_DATA_000062 through ADOBE_DATA_000156
Exhibit 1158
Exhibit 1159
Exhibit 1160
Exhibit 1250
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Exhibit 216
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Exhibit 2297
Exhibit 236
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Exhibit 2487

Exhibit 2488
Exhibit 2490
Exhibit 2491
Exhibit 2492
Exhibit 2495
Exhibit 2501
Exhibit 2800
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Exhibit 2802
Exhibit 2804
Exhibit 2805
Exhibit 2808
Exhibit 2809
Exhibit 2823
Exhibit 2826
Exhibit 300
Exhibit 303
Exhibit 410

Google
GOOG-HIGH-TECH-00193360-367
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DOJ Documents	**Date**
Competitive Impact Statement	9/24/2010
Final Judgment	3/17/2011
Joint Submission Regardng the Application of *Per Se* Treatment to Employee Non-Solicitation Arrangements	11/25/2009
Memorandum on the Adobe-Apple Partnership and Ancillary Non-Solicitation Policy	1/13/2010

Interviews	**Date**
Deborah Streeter	11/1/2013
Donna Morris	11/1/2013
Jeff Vijungco	11/1/2013
Rosemary Arriada-Keiper	11/1/2013

Legal Documents	**Date**
Consolidated Amended Complaint	9/2/2011
Plaintiff Brandon Marshall's Answers and Objections to Defendants' First Set of Interrogatories	3/28/2012
Plaintiff Michael Devine's Answers and Objections to Defendants' First Set of Interrogatories	3/27/2012
Order Granting Plaintiffs' Supplemental Motion for Class Certification	10/24/2013
Plaintiffs' Notice of Motion and Motion for Class Certification, and Memorandum of Law in Support	10/1/2012
Opposition to Plaintiffs' Motion for Class Certification	11/12/2012
Plaintiffs' Consolidated Reply in Support of Motion for Class Certification and Opposition to Defendants' Motion to Strike the Report of Dr. Edward E. Leamer	12/10/2012
Supplemental Declaration of Professor Kevin M. Murphy in Support of Administrative Motion for Leave to Supplement the Record and Relevant Exhibits	1/9/2013
Plaintiffs' Supplemental Motion and Brief in Support of Class Certification	5/10/2013
Defendants' Opposition to Supplemental Class Cerification Motion	6/21/2013
Plaintiffs' Reply in Support of Supplemental Class Certification Motion	7/12/2013
Declaration of Donna Morris of Adobe Systems Inc. In Support of Defendants' Opposition to Plaintiffs' Motion for Class Certification and Relevant Exhibits	11/9/2012
Declaration of Jeff Vijungco of Adobe Systems Inc. In Support of Defendants' Opposition to Plaintiffs' Motion for Class Certification	11/9/2012

Publicly Available Materials

Adobe's 2008 Proxy Statement (http://www.adobe.com/aboutadobe/invrelations/pdfs/2008_ProxyStatement.pdf)
Adobe's 2009 Proxy Statement (http://www.adobe.com/aboutadobe/invrelations/pdfs/2009_proxystatement.pdf)
Adobe's 2010 Proxy Statement (http://www.adobe.com/aboutadobe/invrelations/pdfs/2010_proxystatement.pdf)
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Exhibit 3A
Hiring Source Breakdown by Year
Adobe Technical Class

[A] Hiring Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total	% of Total

[redacted]

Notes and Sources:

[A]: Unless otherwise noted, all hiring sources are from the variable "Hire_Source" found in Adobe employment data. Years are based on the hire date or the date an employee switched into the technical group. Employees, except for those who have multiple "Hire_Source" values for a single hire date, who were initially hired in the technical group or switched into the group are included in the analysis. The list of hiring sources is comprised from all employees and all sources listed by Adobe in its employment data.

[B]: Indicates incumbent employees that were previously not identified as part of the technical group but a change in job titles caused a switch into the technical group.

[C]: Values that were blank have been replaced with "NOT POPULATED".

Exhibit 3B
Hiring Source Breakdown by Year
Apple Hires

[A] Hiring Source	2006	2007	2008	2009	2010	2011	2012	Total	% of Total
[redacted]									

Notes and Sources:

[A]: Unless otherwise noted, all hiring sources are from the "Source2" variable found in the Apple hiring data. Years are based on the application date for subsequent hires. Hires included in this analysis are restricted to the subset of hires used in Exhibit 4B. Time frame is from 2006Q3 through April 2012.

[B]: Values that were blank have been replaced with "NOT POPULATED".

Exhibit 3C
Hiring Source Breakdown by Year
Adobe Technical Class (Previous Employer = Apple)

[A] Hiring Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total	% of Total
[redacted]															

Notes and Sources:

[A]: Unless otherwise noted, all hiring sources are from the variable "Hire_Source" found in Adobe employment data. Years are based on employee hire date. The list of hiring sources is comprised from employees who were initially hired into the technical class and listed Apple as the previous employer. Employees (2) who listed Apple as their previous employer but have a hiring source group of "Temporary to Regular" are excluded from this analysis.

[B]: Values that were blank have been replaced with "NOT POPULATED".

Exhibit 3D
Hiring Source Breakdown by Year
Apple Hires (Previous Employer = Adobe)

[A] Hiring Source	2006	2007	2008	2009	2010	2011	2012	Total	% of Total
[redacted]									

Notes and Sources:

[A]: Unless otherwise noted, all hiring sources are from the "Source2" variable found in the Apple hiring data. Years are based on the application date for subsequent hires. Hires included in this analysis are restricted to the subset of hires used in Exhibit 4B and those that list Adobe as the previous employer. Time frame is from September 2006 through April 2012.

Exhibit 4A
Top 20 Previous Employers of Adobe Hires
Technical Class Only [A]

		2001-2004		2005-2009		2010-2012		Total	
Rank	Previous Employer	Number of Hires	Percentage of Total Hires	Number of Hires	Percentage of Total Hires	Number of Hires	Percentage of Total Hires	Number of Hires	Percentage of Total Hires
[redacted]									

Notes and Sources:

[A]: Analysis includes all ID/hire date combinations who were part of the technical class at initial hiring (or first appearance in the data). Employees who have multiple previous employers listed for a single hire date are excluded from the analysis.

Source: Adobe employment data.

Exhibit 4B
Top 20 Previous Employers of Apple Hires [A]

		2001-2004		2005-2009		2010-2012		Total	
Rank	Previous Employer	Number of Hires	Percentage of Total Hires	Number of Hires	Percentage of Total Hires	Number of Hires	Percentage of Total Hires	Number of Hires	Percentage of Total Hires
[redacted]									

Notes and Sources:
[A]: Includes all Apple hires with a job code provided in the Apple compensation data.

Sources: Apple hiring data (from September 2006 through April 2010) and Apple compensation data.

Exhibit 5A
Hires and Separations at Adobe
For Members of the Technical Class

	Hires				Separations				Hires and Separations				
Year	From Apple	From All Other Defendants	From Non-Defendant	Overall	Going to Apple	Going to Other Defendants	Going to Non-Defendant	Overall	From/To Apple	From/To Another Defendant	From/To Non-Defendant	Overall	Number of Employees
[redacted]													

Note: This analysis excludes hires indicated as acquisitions, hires showing the same defendant company as their immediate previous employer within one year of the hiring, and separations that appear as immediately rehired by the same defendant company within one year. Number of employees per year includes all technical class members who worked at least a portion of the year and is weighted to account for hires and separations (i.e., an employee who works less than a year is counted as a fraction).

Source: Prof. Leamer's backup data and materials.

Exhibit 5B
Hires and Separations at Apple
For Members of the Technical Class

Year	Hires: From Adobe	Hires: From All Other Defendants	Hires: From Non-Defendant	Hires: Overall	Separations: Going to Adobe	Separations: Going to Other Defendants	Separations: Going to Non-Defendant	Separations: Overall	Hires and Separations: From/To Adobe	Hires and Separations: From/To Another Defendant	Hires and Separations: From/To Non-Defendant	Hires and Separations: Overall	Number of Employees
[redacted]													

Note: This analysis excludes hires indicated as acquisitions, hires showing the same defendant company as their immediate previous employer within one year of the hiring, and separations that appear as immediately rehired by the same defendant company within one year. Number of employees per year includes all technical class members who worked at least a portion of the year and is weighted to account for hires and separations (i.e., an employee who works less than a year is counted as a fraction).

Source: Prof. Leamer's backup data and materials.

Exhibit 6A
Adobe - Software & Web Development

		Year												
	Category	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
[A]	Adobe - Software & Web Development		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[B]	San Jose MSA	60,640	49,900	39,420	40,650	41,480	45,640	48,200	50,120	54,860	56,920	53,410	57,180	62,420
[C]	San Francisco - Oakland MSA	52,060	40,680	27,300	39,470	39,790	41,640	41,380	41,880	44,080	44,100	36,970	40,050	54,530
[D] = [B] + [C]	Surrounding Geographic Area	112,700	90,580	66,720	80,120	81,270	87,280	89,580	92,000	98,940	101,020	90,380	97,230	116,950
[E]	National	1,195,780	1,150,380	1,093,530	1,132,750	1,311,140	1,308,440	1,405,520	1,451,070	1,488,610	1,470,600	1,236,720	1,272,190	1,608,380
[F] = [A] / [B]	Adobe Share of San Jose		3.3%	4.2%	3.7%	4.0%	4.8%	5.1%	5.1%	4.6%	4.3%	4.7%	4.3%	3.5%
[G] = [A] / [D]	Adobe Share of Surrounding Area		1.8%	2.5%	1.9%	2.0%	2.5%	2.8%	2.8%	2.5%	2.4%	2.8%	2.5%	1.8%
[H] = [A] / [E]	Adobe Share of National		0.1%	0.2%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%

Notes and Sources:

[A]: Number of Adobe employees who worked at least a portion of the year under a job title that is classified under the "Software and Web Development" group. See Appendix 5.

[B]: Sum of total employment for relevant occupations in the San Jose MSA. Relevant occupation codes and summary job titles are listed below. Figures are from BLS OES Data.

Occupation Code	Title
15-1011	COMPUTER AND INFORMATION SCIENTISTS, RESEARCH
15-1021	COMPUTER PROGRAMMERS
15-1031	COMPUTER SOFTWARE ENGINEERS, APPLICATIONS
15-1032	COMPUTER SOFTWARE ENGINEERS, SYSTEMS SOFTWARE
15-1099	COMPUTER SPECIALISTS, ALL OTHER
15-1111	COMPUTER AND INFORMATION RESEARCH SCIENTISTS
15-1131	COMPUTER PROGRAMMERS
15-1132	SOFTWARE DEVELOPERS, APPLICATIONS
15-1133	SOFTWARE DEVELOPERS, SYSTEMS SOFTWARE
15-1134	WEB DEVELOPERS
15-1199	COMPUTER OCCUPATIONS, ALL OTHER

[C]: Sum of total employment for the relevant occupations in the San Francisco - Oakland MSA. Relevant occupation codes remain the same.

[E]: Nationwide figures for the sum of total employment for the relevant occupations. Relevant occupation codes remain the same.

Exhibit 6B
Adobe - IT

		Year												
	Category	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
[A]	Adobe - IT		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[B]	San Jose MSA	16,470	15,820	12,980	13,670	11,950	13,260	13,880	14,680	16,070	18,370	14,480	15,350	21,840
[C]	San Francisco - Oakland MSA	28,460	24,430	22,250	22,230	23,750	24,800	25,890	26,570	27,510	28,800	21,370	22,770	35,150
[D] = [B] + [C]	Surrounding Geographic Area	44,930	40,250	35,230	35,900	35,700	38,060	39,770	41,250	43,580	47,170	35,850	38,120	56,990
[E]	National	924,560	906,420	935,860	961,680	1,014,610	1,047,020	1,049,530	1,106,490	1,163,920	1,185,770	933,090	938,040	1,322,490
[F] = [A] / [B]	Adobe Share of San Jose		1.3%	1.5%	1.5%	1.9%	2.3%	2.5%	4.2%	3.0%	3.2%	4.9%	5.4%	3.3%
[G] = [A] / [D]	Adobe Share of Surrounding Area		0.5%	0.6%	0.6%	0.6%	0.8%	0.9%	1.5%	1.1%	1.2%	2.0%	2.2%	1.3%
[H] = [A] / [E]	Adobe Share of National		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%

Notes and Sources:

[A]: Number of Adobe employees who worked at least a portion of the year under a job title that is classified under the "IT" group. See Appendix 5.

[B]: Sum of total employment for relevant occupations in the San Jose MSA. Relevant occupation codes and summary job titles are listed below. Figures are from BLS OES Data.

Occupation Code	Title
15-1051	COMPUTER SYSTEMS ANALYSTS
15-1061	DATABASE ADMINISTRATORS
15-1071	NETWORK AND COMPUTER SYSTEMS ADMINISTRATORS
15-1081	NETWORK SYSTEMS AND DATA COMMUNICATIONS ANALYSTS
15-1121	COMPUTER SYSTEMS ANALYSTS
15-1122	INFORMATION SECURITY ANALYSTS
15-1141	DATABASE ADMINISTRATORS
15-1142	NETWORK AND COMPUTER SYSTEMS ADMINISTRATORS
15-1143	COMPUTER NETWORK ARCHITECTS
15-1152	COMPUTER NETWORK SUPPORT SPECIALISTS

[C]: Sum of total employment for the relevant occupations in the San Francisco - Oakland MSA. Relevant occupation codes remain the same.

[E]: Nationwide figures for the sum of total employment for the relevant occupations. Relevant occupation codes remain the same.

Exhibit 6C
Adobe - Graphic Designer

		Year												
	Category	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
[A]	Adobe - Graphic Designer		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[B]	San Jose MSA	1,040	1,100	1,420	1,530	1,470	1,470	1,590	1,400	1,410	1,650	1,630	1,710	1,640
[C]	San Francisco - Oakland MSA	3,820	2,870	3,440	3,120	3,400	3,650	4,240	4,920	5,810	5,440	4,860	4,640	4,590
[D] = [B] + [C]	Surrounding Geographic Area	4,860	3,970	4,860	4,650	4,870	5,120	5,830	6,320	7,220	7,090	6,490	6,350	6,230
[E]	National	133,630	136,470	141,830	151,950	159,720	178,530	190,880	201,080	209,290	200,870	192,240	191,550	191,440
[F] = [A] / [B]	Adobe Share of San Jose		2.5%	1.0%	0.7%	1.0%	1.3%	1.1%	1.0%	0.1%	0.1%	0.1%	N/A	N/A
[G] = [A] / [D]	Adobe Share of Surrounding Area		0.7%	0.3%	0.2%	0.3%	0.4%	0.3%	0.2%	0.0%	0.0%	0.0%	N/A	N/A
[H] = [A] / [E]	Adobe Share of National		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	N/A	N/A

Notes and Sources:

[A]: Number of Adobe employees who worked at least a portion of the year under a job title that is classified under the "Graphic Designer" group. See Appendix 5.

[B]: Sum of total employment for relevant occupations in the San Jose MSA. Relevant occupation codes and summary job titles are listed below. Figures are from BLS OES Data.

Occupation Code	Title
27-1024	GRAPHIC DESIGNERS

[C]: Sum of total employment for the relevant occupations in the San Francisco - Oakland MSA. Relevant occupation codes remain the same.

[E]: Nationwide figures for the sum of total employment for the relevant occupations. Relevant occupation codes remain the same.

Exhibit 6D
Adobe - Technical Writer

		Year												
	Category	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
[A]	Adobe - Technical Writer		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[B]	San Jose MSA	1,870	1,530	1,570	1,390	1,470	1,530	1,370	1,350	1,350	1,510	1,340	1,340	1,200
[C]	San Francisco - Oakland MSA	1,560	1,230	1,240	1,260	1,350	1,270	1,110	1,170	1,160	1,130	1,020	1,110	1,160
[D] = [B] + [C]	Surrounding Geographic Area	3,430	2,760	2,810	2,650	2,820	2,800	2,480	2,520	2,510	2,640	2,360	2,450	2,360
[E]	National	50,700	45,900	44,780	44,690	45,100	46,250	45,330	46,740	47,460	46,270	43,990	45,120	46,160
[F] = [A] / [B]	Adobe Share of San Jose		2.8%	3.1%	3.0%	4.1%	6.5%	6.4%	5.3%	3.9%	3.6%	4.1%	2.9%	2.6%
[G] = [A] / [D]	Adobe Share of Surrounding Area		1.6%	1.7%	1.6%	2.1%	3.5%	3.5%	2.8%	2.1%	2.1%	2.3%	1.6%	1.3%
[H] = [A] / [E]	Adobe Share of National		0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%

Notes and Sources:

[A]: Number of Adobe employees who worked at least a portion of the year under a job title that is classified under the "Technical Writer" group. See Appendix 5.

[B]: Sum of total employment for relevant occupations in the San Jose MSA. Relevant occupation codes and summary job titles are listed below. Figures are from BLS OES Data.

Occupation Code	Title
27-3042	TECHNICAL WRITERS

[C]: Sum of total employment for the relevant occupations in the San Francisco - Oakland MSA. Relevant occupation codes remain the same.

[E]: Nationwide figures for the sum of total employment for the relevant occupations. Relevant occupation codes remain the same.

Exhibit 6E
Adobe - User Support

	Category	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
		Year												
[A]	Adobe - User Support		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[B]	San Jose MSA	12,360	9,460	8,200	7,920	6,820	7,890	7,960	7,980	7,610	6,710	0	0	8,280
[C]	San Francisco - Oakland MSA	16,770	11,070	8,710	9,780	9,250	9,990	9,430	9,430	10,530	10,680	0	0	10,300
[D] = [B] + [C]	Surrounding Geographic Area	29,130	20,530	16,910	17,700	16,070	17,880	17,390	17,410	18,140	17,390	0	0	18,580
[E]	National	522,570	493,240	478,560	482,990	488,540	499,860	514,460	525,570	545,520	540,560	0	0	525,630
[F] = [A] / [B]	Adobe Share of San Jose		0.5%	0.4%	0.4%	0.4%	1.0%	1.3%	1.2%	0.1%	0.1%	N/A	N/A	0.1%
[G] = [A] / [D]	Adobe Share of Surrounding Area		0.2%	0.2%	0.2%	0.2%	0.5%	0.6%	0.6%	0.0%	0.0%	N/A	N/A	0.0%
[H] = [A] / [E]	Adobe Share of National		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	N/A	N/A	0.0%

Notes and Sources:

[A]: Number of Adobe employees who worked at least a portion of the year under a job title that is classified under the "User Support" group. See Appendix 5.

[B]: Sum of total employment for relevant occupations in the San Jose MSA. Relevant occupation codes and summary job titles are listed below. Figures are from BLS OES Data. No figures were reported in 2010 and 2011 for the relevant occupation codes.

Occupation Code	Title
15-1041	COMPUTER SUPPORT SPECIALISTS
15-1151	COMPUTER USER SUPPORT SPECIALISTS

[C]: Sum of total employment for the relevant occupations in the San Francisco - Oakland MSA. Relevant occupation codes remain the same.

[E]: Nationwide figures for the sum of total employment for the relevant occupations. Relevant occupation codes remain the same.

Exhibit 7
Industries that Employ the Technical Class

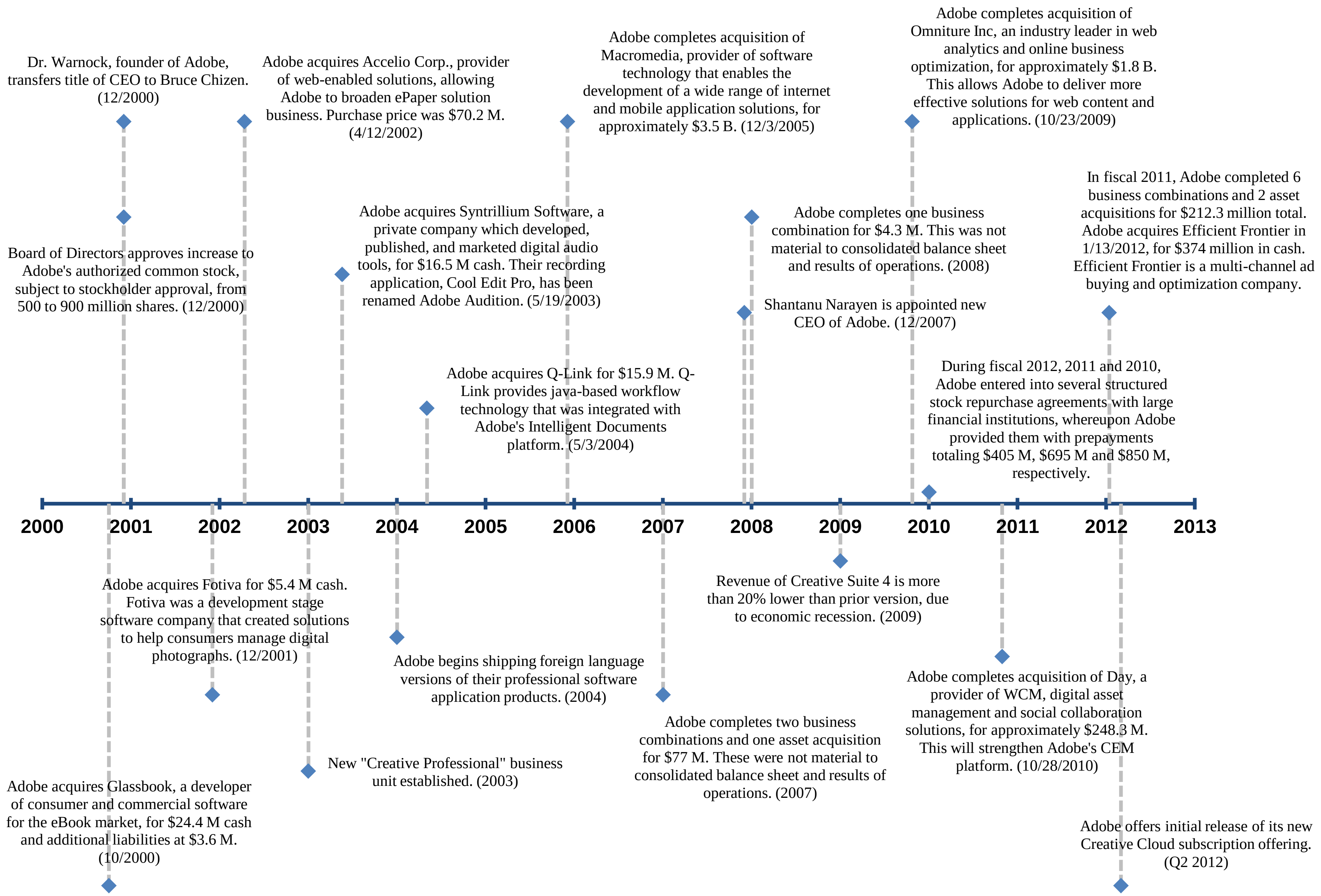
	Category	2005	2006	2007	2008	2009
[A]	423400 - Professional and Commercial Equipment and Supplies Merchant Wholesalers	82,760	81,950	96,080	99,900	96,240
[A]	511200 - Software Publishers	129,510	129,800	131,220	138,480	139,420
[A]	517100 - Wired Telecommunications Carriers				85,500	84,480
[A]	518200 - Data Processing, Hosting, and Related Services	83,770	87,720	91,150	89,500	86,400
[A]	524100 - Insurance Carriers	95,390	97,000	98,660	102,980	107,320
[A]	541300 - Architectural, Engineering, and Related Services	71,290	74,830	78,010		79,890
[A]	541500 - Computer Systems Design and Related Services	643,600	696,400	756,520	808,210	817,660
[A]	541600 - Management, Scientific, and Technical Consulting Services	83,330	88,540	81,720	86,000	91,480
[A]	541700 - Scientific Research and Development Services	69,090				
[A]	551100 - Management of Companies and Enterprises	154,280	167,370	185,910	192,230	196,230
[A]	561300 - Employment Services		74,660	86,120	83,440	
[A]	611300 - Colleges, Universities, and Professional Schools	88,360	94,220	97,770	98,220	102,340
[B] = sum([A])	Total Area	1,501,380	1,592,490	1,703,160	1,784,460	1,801,460

Notes and Sources:

[A]: Sum of national employment for the 10 largest industries that employ the occupations in the technical class. Figures for industries not in the top 10 in a given year are blank. Technical occupation codes and summary job titles are listed below. Figures are from BLS OES Data.

Occupation Code	Title
15-1011	COMPUTER AND INFORMATION SCIENTISTS, RESEARCH
15-1021	COMPUTER PROGRAMMERS
15-1031	COMPUTER SOFTWARE ENGINEERS, APPLICATIONS
15-1032	COMPUTER SOFTWARE ENGINEERS, SYSTEMS SOFTWARE
15-1041	COMPUTER SUPPORT SPECIALISTS
15-1051	COMPUTER SYSTEMS ANALYSTS
15-1061	DATABASE ADMINISTRATORS
15-1071	NETWORK AND COMPUTER SYSTEMS ADMINISTRATORS
15-1081	NETWORK SYSTEMS AND DATA COMMUNICATIONS ANALYSTS
15-1099	COMPUTER SPECIALISTS, ALL OTHER
15-1111	COMPUTER AND INFORMATION RESEARCH SCIENTISTS
15-1121	COMPUTER SYSTEMS ANALYSTS
15-1122	INFORMATION SECURITY ANALYSTS
15-1131	COMPUTER PROGRAMMERS
15-1132	SOFTWARE DEVELOPERS, APPLICATIONS
15-1133	SOFTWARE DEVELOPERS, SYSTEMS SOFTWARE
15-1134	WEB DEVELOPERS
15-1141	DATABASE ADMINISTRATORS
15-1142	NETWORK AND COMPUTER SYSTEMS ADMINISTRATORS
15-1143	COMPUTER NETWORK ARCHITECTS
15-1151	COMPUTER USER SUPPORT SPECIALISTS
15-1152	COMPUTER NETWORK SUPPORT SPECIALISTS
15-1199	COMPUTER OCCUPATIONS, ALL OTHER
27-1024	GRAPHIC DESIGNERS
27-3042	TECHNICAL WRITERS

Exhibit 8
Adobe Inc. Timeline



Source: Adobe Form 10-Ks 2000 to 2012 (various years).

Exhibit 9A
Total Compensation By Year
Adobe Job Title: [redacted]

[redacted]

Note: Top five Adobe Technical Class job titles are identified by counting the aggregate employee-years for each job title from 2005 to 2009. The analysis includes all technical class members with this specific job title in December of each year.
Source: Adobe employment data (includes Employee ID records for December only).

Exhibit 9B
Total Compensation By Year
Adobe Job Title: [redacted]

[redacted]

Note: Top five Adobe Technical Class job titles are identified by counting the aggregate employee-years for each job title from 2005 to 2009. The analysis includes all technical class members with this specific job title in December of each year.
Source: Adobe employment data (includes Employee ID records for December only).

Exhibit 9C
Total Compensation By Year
Adobe Job Title: [redacted]

[redacted]

Note: Top five Adobe Technical Class job titles are identified by counting the aggregate employee-years for each job title from 2005 to 2009. The analysis includes all technical class members with this specific job title in December of each year.
Source: Adobe employment data (includes Employee ID records for December only).

Exhibit 9D
Total Compensation By Year
Adobe Job Title: [redacted]

[redacted]

Note: Top five Adobe Technical Class job titles are identified by counting the aggregate employee-years for each job title from 2005 to 2009. The analysis includes all technical class members with this specific job title in December of each year.
Source: Adobe employment data (includes Employee ID records for December only).

Exhibit 9E
Total Compensation By Year
Adobe Job Title: [redacted]

[redacted]

Note: Top five Adobe Technical Class job titles are identified by counting the aggregate employee-years for each job title from 2005 to 2009. The analysis includes all technical class members with this specific job title in December of each year.
Source: Adobe employment data (includes Employee ID records for December only).

Exhibit 10A
Year over Year Percent Changes in Total Compensation
Adobe Job Title: [redacted]

[redacted]

Note: Top five Adobe Technical Class job titles are identified by counting the aggregate employee-years for each job title from 2005 to 2009. The analysis includes all technical class members who held this specific job title in December of the current year and the previous year.
Source: Adobe employment data (includes Employee ID records for December only).

Exhibit 10B
Year over Year Percent Changes in Total Compensation
Adobe Job Title: [redacted]

[redacted]

Note: Top five Adobe Technical Class job titles are identified by counting the aggregate employee-years for each job title from 2005 to 2009. The analysis includes all technical class members who held this specific job title in December of the current year and the previous year.
Source: Adobe employment data (includes Employee ID records for December only).

Exhibit 10C
Year over Year Percent Changes in Total Compensation
Adobe Job Title: [redacted]

[redacted]

Note: Top five Adobe Technical Class job titles are identified by counting the aggregate employee-years for each job title from 2005 to 2009. The analysis includes all technical class members who held this specific job title in December of the current year and the previous year.
Source: Adobe employment data (includes Employee ID records for December only).

Exhibit 10D
Year over Year Percent Changes in Total Compensation
Adobe Job Title: [redacted]

[redacted]

Note: Top five Adobe Technical Class job titles are identified by counting the aggregate employee-years for each job title from 2005 to 2009. The analysis includes all technical class members who held this specific job title in December of the current year and the previous year.
Source: Adobe employment data (includes Employee ID records for December only).

Exhibit 10E
Year over Year Percent Changes in Total Compensation
Adobe Job Title: [redacted]

[redacted]

Note: Top five Adobe Technical Class job titles are identified by counting the aggregate employee-years for each job title from 2005 to 2009. The analysis includes all technical class members who held this specific job title in December of the current year and the previous year.
Source: Adobe employment data (includes Employee ID records for December only).

Exhibit 11A
Mobility Analysis

[redacted]

Source: Adobe employee data (includes Employee ID reocrds for December only).
Note: The top five most common technical job titles were identified by the number of employees as of 2005. Two employees change jot titles and drop out of the class during the class period.

Exhibit 11B
Mobility Analysis

[redacted]

Source: Adobe employee data (includes Employee ID reocrds for December only).
Note: The top five most common technical job titles were identified by the number of employees as of 2005.

Exhibit 11C
Mobility Analysis

[redacted]

Source: Adobe employee data (includes Employee ID reocrds for December only).
Note: The top five most common technical job titles were identified by the number of employees as of 2005. Four employees change jot titles and drop out of the class during the class period.

Exhibit 11D
Mobility Analysis

[redacted]

Source: Adobe employee data (includes Employee ID reocrds for December only).
Note: The top five most common technical job titles were identified by the number of employees as of 2005. Four employees change jot titles and drop out of the class during the class period.

Exhibit 11E
Mobility Analysis

[redacted]

Source: Adobe employee data (includes Employee ID reocrds for December only).
Note: The top five most common technical job titles were identified by the number of employees as of 2005. One employee changes jot titles and drops out of the class during the class period.

Exhibit 12
BLS Wage Estimate and Adobe Base Salary and Growth Comparisons

	BLS						Adobe	
	Simple Average		Weighted by BLS Employment		Weighted by Adobe Employment		Average by Employee	
Year	**Mean**	**% Change**	**Mean**	**% Change**	**Mean**	**% Change**	**Mean**	**% Change**
	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
2001	$77,258		$80,096		$84,024		[redacted]	
2002	$79,521	2.87%	$82,174	3.69%	$87,586	3.75%	[redacted]	4.87%
2003	$82,137	3.07%	$85,159	2.99%	$90,767	3.74%	[redacted]	3.78%
2004	$84,912	3.34%	$89,697	4.21%	$94,322	4.05%	[redacted]	3.80%
2005	$88,608	4.22%	$91,989	2.82%	$96,805	3.20%	[redacted]	5.14%
2006	$89,896	1.47%	$93,805	1.68%	$98,751	1.96%	[redacted]	5.85%
2007	$92,461	3.00%	$97,450	3.64%	$101,665	3.73%	[redacted]	4.38%
2008	$95,070	3.09%	$102,034	3.83%	$107,577	3.96%	[redacted]	5.83%
2009	$100,245	5.45%	$108,310	5.68%	$113,704	6.17%	[redacted]	0.64%

Notes and Sources:

[A]: Average of the mean annual salaries for the relevant occupation codes in the San Jose MSA. Each occupation code is weighted equally. See Exhibit 6 for relevant codes. Data are from BLS.

[B]: Average of the mean annual percentage increases for the relevant occupation codes in the San Jose MSA. Each occupation code is weighted equally. Occupation code reclassifications in 2010 prevent accurate year-over-year comparisons subsequent to 2009.

[C]: Average of the mean annual salaries for the relevant occupation codes in the San Jose MSA. Each occupation code is weighted based on total employment.

[D]: Average of the mean annual percentage increases for the relevant occupation codes in the San Jose MSA. Each occupation code is weighted based on total employment. Occupation code reclassifications in 2010 prevent accurate year-over-year comparisons subsequent to 2009.

[E]: Estimated average annual salary for the relevant occupation codes in the San Jose MSA weighted by the distribution of Adobe employees categorized into broad job groups. Adobe employees are classified into broad groups based on job titles and descriptions. The relevant occupation codes are then also classified into the same broad groups. BLS salary figures are estimated for each group based on total wages (sum of total employment multiplied by mean wage for each occupation code in the group) divided by total employment of the group then weighted by the distribution of Adobe employees in each broad group. See Exhibit 6 for Adobe employment figures by group.

[F]: Estimated annual percentage increase of the San Jose MSA. The annual percentage increase of each broad group is weighted by the distribution of Adobe employees in each group.

[G]: Average annual base salary of Adobe technical class members. Figures are from Adobe employment data and utilize Employee ID records from December of each year.

[H]: Average annual change in base salary for Adobe technical class members. Figures are from Adobe employment data and utilize Employee ID records from December of each year. Employees are excluded from the analysis if they were not part of the class during both the current year and previous year.

*** BLS wage estimates are for wages and salaries only. Estimates include items such as base pay, cost-of-living adjustments, guaranteed pay, hazardous-duty pay, and incentive pay (commissions and production bonuses). Estimates do not include items such as health insurance, contribution to retirement plans, back pay, jury duty pay, overtime pay, severance pay, tuition reimbursements, non-production bonuses, or stock bonuses. For the purposes of comparing absolute dollar amounts, I have conservatively chosen Adobe base salaries as the appropriate metric.

Exhibit 13A
Replication of Prof. Leamer's Exhibit 3 Regression Model

Estimated Undercompensation: $3,065,184,305
Adobe Undercompensation: $175,376,304
Observation: Employee ID record in December of each year
Dependant Variable: Log(Total Annual Compensation/CPI)

	Variable	Estimate [a]		Robust St. Error [b]	T-Value [c] = [a] / [b]
1.	Conduct * (Log Age - Log(38))	1.1774	***	0.4419	2.6647
2.	Conduct * (Log(Age)^2 - Log(38)^2)	-0.1590	***	0.0582	-2.7324
3.	Conduct * (Log(Number of New Hires In the Firm/Number of Employees(-1)) + 1.92)	-0.0170		0.0304	-0.5584
4.	Conduct	-0.0559		0.0447	-1.2519
5.	ADOBE * Log(Total Annual Compensation/CPI) (-1)	0.6766	***	0.0582	11.6193
6.	APPLE * Log(Total Annual Compensation/CPI) (-1)	0.7288	***	0.0579	12.5888
7.	GOOGLE * Log(Total Annual Compensation/CPI) (-1)	0.4329	***	0.0720	6.0097
8.	INTEL * Log(Total Annual Compensation/CPI) (-1)	0.6819	***	0.0320	21.2969
9.	INTUIT * Log(Total Annual Compensation/CPI) (-1)	0.6524	***	0.0492	13.2621
10.	LUCASFILM * Log(Total Annual Compensation/CPI) (-1)	0.9332	***	0.0804	11.6141
11.	PIXAR * Log(Total Annual Compensation/CPI) (-1)	0.6740	***	0.1467	4.5959
12.	ADOBE * Log(Total Annual Compensation/CPI) (-2)	0.3037	***	0.0472	6.4374
13.	APPLE * Log(Total Annual Compensation/CPI) (-2)	0.2457	***	0.0405	6.0608
14.	GOOGLE * Log(Total Annual Compensation/CPI) (-2)	0.3687	***	0.0514	7.1772
15.	INTEL * Log(Total Annual Compensation/CPI) (-2)	0.2840	***	0.0278	10.2182
16.	INTUIT * Log(Total Annual Compensation/CPI) (-2)	0.3048	***	0.0447	6.8157
17.	LUCASFILM * Log(Total Annual Compensation/CPI) (-2)	0.0428		0.0820	0.5217
18.	PIXAR * Log(Total Annual Compensation/CPI) (-2)	0.0941		0.1167	0.8065
19.	Log(Age) (Years)	-0.6561	***	0.1979	-3.3161
20.	Log(Age)^2	0.0790	***	0.0253	3.1268
21.	Log(Company Tenure) (Months)	0.0177		0.0452	0.3927
22.	Log(Company Tenure)^2	-0.0012		0.0047	-0.2589
23.	Male	0.0056	**	0.0025	2.2123
24.	DLog(Information Sector Employment in San-Jose)	1.8770	***	0.4704	3.9905
25.	Log(Total Number of Transfers Among Defendants)	0.1032	***	0.0381	2.7105
26.	Year (trend)	-0.0042		0.0083	-0.5044
27.	Log(Number of New Hires In the Firm/Number of Employees(-1))	0.0263		0.0267	0.9860
28.	Log(Total Number of New Hires)	-0.3350	***	0.0691	-4.8491
29.	Log(Firm Revenue Per Employee/CPI) (-1)	-0.0475		0.0714	-0.6648
30.	DLog(Firm Revenue Per Employee/CPI) (-1)	0.1364	*	0.0752	1.8144
31.	APPLE	0.1252		0.2600	0.4817
32.	GOOGLE	1.3597	***	0.4378	3.1055
33.	INTEL	0.1032		0.2721	0.3793
34.	INTUIT	0.1290		0.2201	0.5861
35.	LUCASFILM	0.0563		0.2919	0.1928
36.	PIXAR	1.3792	***	0.3909	3.5283
37.	Location (State) Indicators	YES			
38.	Constant	YES			
	R-Squared	**0.8685**			
	Observations	**277,119**			

Note: (1) *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level.
(2) Observations are restricted to cases in which there was no change in employer in the previous two years.
(3) Standard Errors adjusted for clustering at employer-year level.
(4) For regression results with unclustered standard errors, see Appendix 2.

Source: Prof. Leamer's backup data and materials.

Exhibit 13B
Replication of Prof. Leamer's Exhibit 3 Regression Model

Employer	Year	Actual Total Compensation	Prof. Leamer's Estimated Compensation	Difference	Percent
ADOBE	2005	$ 173,386,258	$ 178,046,874	$ 4,660,616	2.7%
ADOBE	2006	$ 321,692,489	$ 345,730,709	$ 24,038,220	7.5%
ADOBE	2007	$ 388,907,034	$ 430,072,635	$ 41,165,600	10.6%
ADOBE	2008	$ 428,560,085	$ 486,344,355	$ 57,784,270	13.5%
ADOBE	2009	$ 427,268,903	$ 474,996,502	$ 47,727,598	11.2%
		$ 1,739,814,770	$ 1,915,191,075	$ 175,376,304	10.1%
APPLE	2005	$ 369,273,700	$ 381,667,175	$ 12,393,475	3.4%
APPLE	2006	$ 636,040,122	$ 689,481,293	$ 53,441,171	8.4%
APPLE	2007	$ 918,893,544	$ 1,033,579,799	$ 114,686,257	12.5%
APPLE	2008	$ 1,043,177,124	$ 1,201,821,129	$ 158,644,004	15.2%
APPLE	2009	$ 1,234,984,547	$ 1,404,416,364	$ 169,431,817	13.7%
		$ 4,202,369,036	$ 4,710,965,759	$ 508,596,724	12.1%
GOOGLE	2005	$ [redacted]			
GOOGLE	2006	$			
GOOGLE	2007	$			
GOOGLE	2008	$			
GOOGLE	2009	$			
		$			
INTEL	2005	[redacted]			
INTEL	2006				
INTEL	2007				
INTEL	2008				
INTEL	2009				
INTUIT	2007	$ 229,028,691	$ 236,704,621	$ 7,675,930	3.4%
INTUIT	2008	$ 372,407,115	$ 401,229,915	$ 28,822,800	7.7%
INTUIT	2009	$ 358,550,249	$ 381,110,758	$ 22,560,509	6.3%
		$ 959,986,055	$ 1,019,045,294	$ 59,059,239	6.2%
LUCASFILM	2005	$ 11,624,754	$ 13,494,783	$ 1,870,029	16.1%
LUCASFILM	2006	$ 26,377,783	$ 31,143,061	$ 4,765,278	18.1%
LUCASFILM	2007	$ 36,538,532	$ 44,166,108	$ 7,627,576	20.9%
LUCASFILM	2008	$ 43,695,875	$ 53,130,133	$ 9,434,259	21.6%
LUCASFILM	2009	$ 44,199,347	$ 52,702,716	$ 8,503,369	19.2%
		$ 162,436,291	$ 194,636,802	$ 32,200,510	19.8%
PIXAR	2005	$ 84,781,591	$ 96,487,530	$ 11,705,939	13.8%
PIXAR	2006	$ 107,426,071	$ 125,110,435	$ 17,684,364	16.5%
PIXAR	2007	$ 111,532,132	$ 129,519,038	$ 17,986,906	16.1%
PIXAR	2008	$ 111,031,111	$ 130,856,982	$ 19,825,871	17.9%
PIXAR	2009	$ 99,895,008	$ 113,512,085	$ 13,617,076	13.6%
		$ 514,665,913	$ 595,486,070	$ 80,820,156	15.7%
	TOTAL	**$ 32,829,041,681**	**$ 35,894,225,989**	**$ 3,065,184,305**	**9.3%**

Note:
(1) Percent is calculated as the difference divided by actual total compensation.

Source: Prof. Leamer's backup data and materials.

Exhibit 13C
Replication of Prof. Leamer's Exhibit 3 Regression Model

	ADOBE		APPLE		GOOGLE	INTEL	INTUIT		LUCASFILM		PIXAR		TOTAL	
2005	$ 4,660,616	2.7%	$ 12,393,475	3.4%	$ [redacted]	[redacted]	-	-	$ 1,870,029	16.1%	$ 11,705,939	13.8%	$ 137,735,693	3.7%
2006	$ 24,038,220	7.5%	$ 53,441,171	8.4%	$ [redacted]	[redacted]	-	-	$ 4,765,278	18.1%	$ 17,684,364	16.5%	$ 423,202,383	7.3%
2007	$ 41,165,600	10.6%	$ 114,686,257	12.5%	$ [redacted]	[redacted]	$ 7,675,930	3.4%	$ 7,627,576	20.9%	$ 17,986,906	16.1%	$ 683,411,950	9.7%
2008	$ 57,784,270	13.5%	$ 158,644,004	15.2%	$ [redacted]	[redacted]	$ 28,822,800	7.7%	$ 9,434,259	21.6%	$ 19,825,871	17.9%	$ 892,874,980	12.1%
2009	$ 47,727,598	11.2%	$ 169,431,817	13.7%	$ [redacted]	[redacted]	$ 22,560,509	6.3%	$ 8,503,369	19.2%	$ 13,617,076	13.6%	$ 927,959,299	10.5%
	$ 175,376,304	**10.1%**	**# $ 508,596,724**	**12.1%**	**$** [redacted]	[redacted]	**$ 59,059,239**	**6.2%**	**$ 32,200,510**	**19.8%**	**$ 80,820,156**	**15.7%**	**$ 3,065,184,305**	**10.2%**

See Exhibit 13B.
Source: Prof. Leamer's backup data and materials.

Exhibit 14A: Average Percentage Change in Total Compensation
Replication of "Preliminary Informal Impact Assessment" Using Prof. Leamer's Method
Technical Class

		Change in Total Compensation				Using Prof. Leamer's Method	
Year	Number of Employees	Mean	Median	90th Percentile	Std. Dev.	Initial[1]	Cumulative
2002	30,123	-7.4%	-7.7%	10.9%	19.1%		
2003	30,231	-4.3%	-3.7%	13.6%	20.2%		
2004	28,359	9.1%	10.1%	23.1%	19.8%		
2005	30,101	-1.4%	-1.9%	13.5%	20.9%	-10.7%	-10.7%
2006	34,778	8.1%	9.4%	24.3%	25.4%	-1.2%	-11.8%
2007	36,276	7.5%	4.8%	27.0%	23.8%	-1.8%	-13.6%
2008	38,143	6.4%	10.0%	23.2%	26.8%	0.0%	-13.6%
2009	41,245	8.7%	4.5%	36.4%	25.0%	0.0%	-13.6%
2010	42,026	5.0%	6.4%	21.9%	23.1%		
2011	45,419	9.4%	8.1%	28.4%	22.6%		
Average		**4.1%**	**4.0%**	**22.2%**	**22.7%**		

Notes: (1) Calculated as the average change in total compensation for the year minus the average changes in total compensation in 2004 and 2011. Prof. Leamer assumes 2008 and 2009 are zero percent to account for the U.S. Economic Recession. Source: Deposition of Edward E. Leamer, Ph.D., dated November 18, 2013, p. 999.

(2) Change in compensation measured only on employees that did not switch employers from previous year.

(3) Total compensation measured as base salary as of December plus annual bonuses, overtime compensation, and stock options and restricted stock awards.

(4) This analysis uses the same methodology as Prof. Leamer, but is adjusted to reflected to account for technical employees only.

Source: Prof. Leamer's backup data and materials.

Exhibit 14B: Average Percentage Change in Total Compensation by Defendant
Replication of "Preliminary Informal Impact Assessment" by Defendant Using Prof. Leamer's Method
Technical Class

Average Change in Total Compensation

Year	Adobe	Apple	Google	Intel	Intuit	Lucasfilm	Pixar	All Defendants
2002	-26.2%	-14.0%	23.4%	[redacted]	-29.9%	10.4%	2.9%	-7.4%
2003	1.9%	7.6%	76.1%	[redacted]	7.9%	9.9%	3.9%	-4.3%
2004	0.5%	4.1%	-39.2%	[redacted]	6.2%	-1.7%	-32.7%	9.1%
2005	10.4%	10.0%	-27.7%	[redacted]	3.5%	6.3%	26.0%	-1.4%
2006	5.9%	13.9%	-42.8%	[redacted]	13.4%	13.4%	15.0%	8.1%
2007	12.5%	21.3%	13.2%	[redacted]	8.5%	4.4%	0.6%	7.5%
2008	5.5%	-1.7%	-18.5%	[redacted]	10.3%	6.7%	-1.0%	6.4%
2009	-9.2%	7.5%	39.5%	[redacted]	-0.3%	-1.0%	-10.9%	8.7%
2010	3.5%	14.5%	-12.4%	[redacted]	13.3%	3.6%	12.4%	5.0%
2011	10.0%	8.3%	13.2%	[redacted]	1.5%	3.7%	12.0%	9.4%

Initial[1] (Using Prof. Leamer's Method)

Year	Adobe	Apple	Google	Intel	Intuit	Lucasfilm	Pixar	All Defendants
2005	5.1%	3.8%	-14.7%	[redacted]	-0.3%	5.3%	36.4%	-10.7%
2006	0.7%	7.7%	-29.8%	[redacted]	9.6%	12.4%	25.4%	-1.2%
2007	7.2%	15.1%	26.2%	[redacted]	4.7%	3.5%	11.0%	-1.8%
2008	0.0%	0.0%	0.0%	[redacted]	0.0%	0.0%	0.0%	0.0%
2009	0.0%	0.0%	0.0%	[redacted]	0.0%	0.0%	0.0%	0.0%

Cumulative (Using Prof. Leamer's Method)

Year	Adobe	Apple	Google	Intel	Intuit	Lucasfilm	Pixar	All Defendants
2005	5.1%	3.8%	-14.7%	[redacted]	-0.3%	5.3%	36.4%	-10.7%
2006	5.8%	11.5%	-44.5%	[redacted]	9.3%	17.8%	61.8%	-11.8%
2007	13.0%	26.6%	-18.3%	[redacted]	14.0%	21.2%	72.7%	-13.6%
2008	13.0%	26.6%	-18.3%	[redacted]	14.0%	21.2%	72.7%	-13.6%
2009	13.0%	26.6%	-18.3%	[redacted]	14.0%	21.2%	72.7%	-13.6%

Notes:
(1) Calculated as the average change in total compensation for the year minus the average changes in total compensation in 2004 and 2011.
(2) This analysis follows Prof. Leamer's methodology in his Figure 19 of treating 2005 as the first year of the agreements for all Defendants.

Source: Prof. Leamer's backup data and materials.

Exhibit 14C: Average Percentage Change in Total Compensation
Replication of "Preliminary Informal Impact Assessment" Using Prof. Leamer's Method
Technical Class
(Excluding Adobe)

		Change in Total Compensation				Using Prof. Leamer's Method	
Year	Number of Employees	Mean	Median	90th Percentile	Std. Dev.	Initial[1]	Cumulative
2002	28,824	-6.5%	-7.1%	11.1%	18.5%		
2003	28,927	-4.6%	-4.0%	13.0%	20.0%		
2004	27,018	9.5%	10.4%	23.3%	19.8%		
2005	28,644	-2.1%	-2.3%	11.3%	21.1%	-11.5%	-11.5%
2006	32,921	8.2%	9.6%	24.2%	25.7%	-1.2%	-12.7%
2007	34,378	7.2%	4.5%	26.2%	24.1%	-2.2%	-15.0%
2008	36,045	6.5%	10.1%	23.0%	27.2%	0.0%	-15.0%
2009	39,100	9.7%	4.9%	37.7%	25.0%	0.0%	-15.0%
2010	39,890	5.1%	6.4%	21.7%	23.3%		
2011	43,180	9.3%	8.1%	28.0%	22.7%		
Average		**4.2%**	**4.1%**	**21.9%**	**22.7%**		

Notes:
(1) Calculated as the average change in total compensation for the year minus the average changes in total compensation in 2004 and 2011.
(2) Change in compensation measured only on employees that did not switch employers from previous year.
(3) Total compensation measured as base salary as of December plus annual bonuses, overtime compensation, and stock options and restricted stock awards.

Source: Prof. Leamer's backup data and materials.

Exhibit 14C: Average Percentage Change in Total Compensation
Replication of "Preliminary Informal Impact Assessment" Using Prof. Leamer's Method
Technical Class
(Excluding Apple)

		Change in Total Compensation				Using Prof. Leamer's Method	
Year	Number of Employees	Mean	Median	90th Percentile	Std. Dev.	Initial[1]	Cumulative
2002	27,685	-6.8%	-7.6%	11.5%	19.0%		
2003	27,643	-5.4%	-4.7%	11.8%	20.2%		
2004	25,818	9.6%	10.7%	23.4%	20.3%		
2005	27,671	-2.5%	-2.5%	10.9%	20.9%	-12.0%	-12.0%
2006	31,786	7.5%	9.5%	22.6%	25.2%	-2.0%	-14.1%
2007	32,901	6.0%	4.4%	21.2%	22.3%	-3.5%	-17.6%
2008	34,286	7.3%	10.4%	22.3%	25.7%	0.0%	-17.6%
2009	36,633	8.8%	4.2%	34.6%	24.0%	0.0%	-17.6%
2010	36,865	3.7%	6.1%	18.8%	21.4%		
2011	39,517	9.5%	8.2%	26.4%	20.7%		
Average		**3.8%**	**3.9%**	**20.4%**	**22.0%**		

Notes: (1) Calculated as the average change in total compensation for the year minus the average changes in total compensation in 2004 and 2011.
(2) Change in compensation measured only on employees that did not switch employers from previous year.
(3) Total compensation measured as base salary as of December plus annual bonuses, overtime compensation, and stock options and restricted stock awards.

Source: Prof. Leamer's backup data and materials.

Exhibit 14C: Average Percentage Change in Total Compensation
Replication of "Preliminary Informal Impact Assessment" Using Prof. Leamer's Method
Technical Class
(Excluding Google)

		Change in Total Compensation				Using Prof. Leamer's Method	
Year	Number of Employees	Mean	Median	90th Percentile	Std. Dev.	Initial[1]	Cumulative
2002	30,026	-7.5%	-7.8%	10.7%	19.0%		
2003	30,024	-4.8%	-3.8%	13.1%	18.4%		
2004	27,881	9.9%	10.2%	23.0%	16.4%		
2005	29,144	-0.6%	-1.8%	12.7%	14.3%	-9.8%	-9.8%
2006	32,649	11.4%	9.7%	23.7%	13.9%	2.1%	-7.7%
2007	32,863	6.9%	4.6%	21.9%	16.1%	-2.4%	-10.0%
2008	33,302	10.0%	10.6%	22.9%	16.2%	0.0%	-10.0%
2009	35,278	3.5%	3.4%	16.3%	15.1%	0.0%	-10.0%
2010	35,749	8.1%	7.3%	21.1%	15.5%		
2011	37,362	8.5%	7.4%	22.0%	16.2%		
Average		**4.5%**	**4.0%**	**18.7%**	**16.1%**		

Notes: (1) Calculated as the average change in total compensation for the year minus the average changes in total compensation in 2004 and 2011.
(2) Change in compensation measured only on employees that did not switch employers from previous year.
(3) Total compensation measured as base salary as of December plus annual bonuses, overtime compensation, and stock options and restricted stock awards.

Source: Prof. Leamer's backup data and materials.

Exhibit 14C: Average Percentage Change in Total Compensation
Replication of "Preliminary Informal Impact Assessment" Using Prof. Leamer's Method
Technical Class
(Excluding Intel)

Year	Number of Employees	Change in Total Compensation: Mean	Median	90th Percentile	Std. Dev.	Using Prof. Leamer's Method: Initial[1]	Cumulative
2002	5,535	-18.7%	-15.7%	8.0%	25.7%		
2003	6,068	8.6%	7.8%	28.0%	28.5%		
2004	6,250	-1.8%	2.3%	20.5%	30.8%		
2005	6,654	4.3%	6.9%	33.8%	39.1%	0.3%	0.3%
2006	8,876	-1.4%	6.4%	38.8%	46.0%	-5.5%	-5.2%
2007	10,908	14.2%	10.0%	53.5%	39.3%	10.2%	5.0%
2008	13,443	-4.8%	1.6%	30.2%	41.0%	0.0%	5.0%
2009	15,498	15.7%	7.8%	57.7%	38.4%	0.0%	5.0%
2010	16,415	2.4%	4.8%	38.8%	35.3%		
2011	19,194	9.9%	10.6%	43.4%	33.4%		
Average		**2.8%**	**4.3%**	**35.3%**	**35.8%**		

Notes: (1) Calculated as the average change in total compensation for the year minus the average changes in total compensation in 2004 and 2011.
(2) Change in compensation measured only on employees that did not switch employers from previous year.
(3) Total compensation measured as base salary as of December plus annual bonuses, overtime compensation, and stock options and restricted stock awards.

Source: Prof. Leamer's backup data and materials.

Exhibit 14C: Average Percentage Change in Total Compensation
Replication of "Preliminary Informal Impact Assessment" Using Prof. Leamer's Method
Technical Class
(Excluding Intuit)

		Change in Total Compensation				Using Prof. Leamer's Method	
Year	Number of Employees	Mean	Median	90th Percentile	Std. Dev.	Initial[1]	Cumulative
2002	28,820	-6.4%	-7.2%	11.2%	18.0%		
2003	28,693	-4.9%	-4.2%	12.4%	20.1%		
2004	26,920	9.3%	10.3%	23.2%	20.1%		
2005	28,773	-1.7%	-2.1%	13.1%	21.2%	-11.2%	-11.2%
2006	33,459	7.9%	9.3%	24.2%	25.8%	-1.6%	-12.8%
2007	34,793	7.4%	4.6%	27.5%	24.2%	-2.1%	-14.9%
2008	36,270	6.2%	10.0%	22.9%	27.3%	0.0%	-14.9%
2009	39,391	9.1%	4.7%	37.7%	25.4%	0.0%	-14.9%
2010	40,124	4.6%	6.1%	21.1%	23.4%		
2011	43,401	9.7%	8.4%	28.8%	22.8%		
Average		**4.1%**	**4.0%**	**22.2%**	**22.8%**		

Notes: (1) Calculated as the average change in total compensation for the year minus the average changes in total compensation in 2004 and 2011.
(2) Change in compensation measured only on employees that did not switch employers from previous year.
(3) Total compensation measured as base salary as of December plus annual bonuses, overtime compensation, and stock options and restricted stock awards.

Source: Prof. Leamer's backup data and materials.

Exhibit 14C: Average Percentage Change in Total Compensation
Replication of "Preliminary Informal Impact Assessment" Using Prof. Leamer's Method
Technical Class
(Excluding Lucasfilm)

		Change in Total Compensation				Using Prof. Leamer's Method	
Year	Number of Employees	Mean	Median	90th Percentile	Std. Dev.	Initial[1]	Cumulative
2002	30,066	-7.4%	-7.7%	10.8%	19.1%		
2003	30,167	-4.3%	-3.8%	13.6%	20.2%		
2004	28,290	9.1%	10.2%	23.2%	19.8%		
2005	30,027	-1.5%	-1.9%	13.5%	21.0%	-10.7%	-10.7%
2006	34,646	8.0%	9.4%	24.3%	25.3%	-1.2%	-12.0%
2007	36,037	7.5%	4.8%	27.1%	23.9%	-1.8%	-13.7%
2008	37,898	6.4%	10.0%	23.2%	26.9%	0.0%	-13.7%
2009	40,949	8.7%	4.5%	36.7%	25.1%	0.0%	-13.7%
2010	41,753	5.0%	6.4%	21.9%	23.2%		
2011	45,130	9.4%	8.2%	28.5%	22.7%		
Average		**4.1%**	**4.0%**	**22.3%**	**22.7%**		

Notes: (1) Calculated as the average change in total compensation for the year minus the average changes in total compensation in 2004 and 2011.

(2) Change in compensation measured only on employees that did not switch employers from previous year.

(3) Total compensation measured as base salary as of December plus annual bonuses, overtime compensation, and stock options and restricted stock awards.

Source: Prof. Leamer's backup data and materials.

Exhibit 14C: Average Percentage Change in Total Compensation
Replication of "Preliminary Informal Impact Assessment" Using Prof. Leamer's Method
Technical Class
(Excluding Pixar)

		Change in Total Compensation				Using Prof. Leamer's Method	
Year	Number of Employees	Mean	Median	90th Percentile	Std. Dev.	Initial[1]	Cumulative
2002	29,782	-7.5%	-7.8%	10.3%	18.9%		
2003	29,864	-4.4%	-3.8%	13.3%	19.4%		
2004	27,977	9.7%	10.3%	23.2%	18.5%		
2005	29,693	-1.8%	-2.0%	12.2%	20.0%	-11.3%	-11.3%
2006	34,331	8.0%	9.4%	23.9%	25.1%	-1.5%	-12.8%
2007	35,776	7.6%	4.8%	27.0%	23.8%	-1.9%	-14.8%
2008	37,614	6.5%	10.1%	23.2%	26.9%	0.0%	-14.8%
2009	40,621	9.0%	4.6%	36.9%	25.0%	0.0%	-14.8%
2010	41,360	4.9%	6.2%	21.8%	23.3%		
2011	44,730	9.3%	8.1%	28.5%	22.8%		
Average		**4.1%**	**4.0%**	**22.0%**	**22.4%**		

Notes: (1) Calculated as the average change in total compensation for the year minus the average changes in total compensation in 2004 and 2011.
(2) Change in compensation measured only on employees that did not switch employers from previous year.
(3) Total compensation measured as base salary as of December plus annual bonuses, overtime compensation, and stock options and restricted stock awards.

Source: Prof. Leamer's backup data and materials.

Exhibit 14D Average Percentage Change in Total Compensation
Replication of “Preliminary Informal Impact Assessment” Using Prof. Leamer’s Method
Technical Class
(Excluding Google & Intel)

		Change in Total Compensation				Using Prof. Leamer's Method	
Year	Number of Employees	Mean	Median	90th Percentile	Std. Dev.	Initial[1]	Cumulative
2002	5,438	-19.4%	-16.4%	6.8%	25.0%		
2003	5,861	6.2%	7.4%	25.5%	23.0%		
2004	5,772	1.3%	2.7%	19.3%	21.4%		
2005	5,697	9.7%	7.8%	30.3%	20.8%	5.3%	5.3%
2006	6,747	11.7%	8.6%	38.4%	23.9%	7.3%	12.6%
2007	7,495	14.6%	9.7%	47.9%	25.5%	10.2%	22.8%
2008	8,602	3.0%	3.9%	30.8%	26.3%	0.0%	22.8%
2009	9,531	0.8%	-0.2%	30.9%	25.6%	0.0%	22.8%
2010	10,138	11.5%	9.0%	41.4%	25.4%		
2011	11,137	7.5%	6.1%	37.4%	26.8%		
Average		**4.7%**	**3.9%**	**30.9%**	**24.4%**		

Notes:
(1) Calculated as the average change in total compensation for the year minus the average changes in total compensation in 2004 and 2011.
(2) Change in compensation measured only on employees that did not switch employers from previous year.
(3) Total compensation measured as base salary as of December plus annual bonuses, overtime compensation, and stock options and restricted stock awards.

Source: Prof. Leamer's backup data and materials.

Exhibit 15A

Replication of Prof. Leamer's Exhibit 3 Regression Model

Excluding Adobe

Estimated Undercompensation: $3,155,598,588
Adobe Undercompensation: -
Observation: Employee ID record in December of each year
Dependant Variable: Log(Total Annual Compensation/CPI)

	Variable	Estimate		Robust St. Error	T-Value
		[a]		[b]	[c] = [a] / [b]
1.	Conduct * (Log Age - Log(38))	1.1678	**	0.4537	2.5739
2.	Conduct * (Log(Age)^2 - Log(38)^2)	-0.1576	**	0.0598	-2.6379
3.	Conduct * (Log(Number of New Hires In the Firm/Number of Employees(-1)) + 1.92)	-0.0212		0.0318	-0.6659
4.	Conduct	-0.0635		0.0467	-1.3594
5.	APPLE * Log(Total Annual Compensation/CPI) (-1)	0.7306	***	0.0573	12.7579
6.	GOOGLE * Log(Total Annual Compensation/CPI) (-1)	0.4323	***	0.0723	5.9816
7.	INTEL * Log(Total Annual Compensation/CPI) (-1)	0.6817	***	0.0303	22.4888
8.	INTUIT * Log(Total Annual Compensation/CPI) (-1)	0.6570	***	0.0483	13.6102
9.	LUCASFILM * Log(Total Annual Compensation/CPI) (-1)	0.9185	***	0.0834	11.0183
10.	PIXAR * Log(Total Annual Compensation/CPI) (-1)	0.6714	***	0.1478	4.5427
11.	APPLE * Log(Total Annual Compensation/CPI) (-2)	0.2418	***	0.0402	6.0095
12.	GOOGLE * Log(Total Annual Compensation/CPI) (-2)	0.3696	***	0.0512	7.2123
13.	INTEL * Log(Total Annual Compensation/CPI) (-2)	0.2841	***	0.0265	10.7175
14.	INTUIT * Log(Total Annual Compensation/CPI) (-2)	0.3006	***	0.0437	6.8704
15.	LUCASFILM * Log(Total Annual Compensation/CPI) (-2)	0.0584		0.0846	0.6908
16.	PIXAR * Log(Total Annual Compensation/CPI) (-2)	0.0949		0.1174	0.8084
17.	Log(Age) (Years)	-0.6886	***	0.2047	-3.3635
18.	Log(Age)^2	0.0832	***	0.0261	3.1875
19.	Log(Company Tenure) (Months)	0.0290		0.0473	0.6142
20.	Log(Company Tenure)^2	-0.0024		0.0049	-0.4827
21.	Male	0.0062	**	0.0027	2.2936
22.	DLog(Information Sector Employment in San-Jose)	1.9402	***	0.4601	4.2168
23.	Log(Total Number of Transfers Among Defendants)	0.1084	**	0.0410	2.6461
24.	Year (trend)	-0.0040		0.0089	-0.4483
25.	Log(Number of New Hires In the Firm/Number of Employees(-1))	0.0342		0.0281	1.2159
26.	Log(Total Number of New Hires)	-0.3632	***	0.0713	-5.0903
27.	Log(Firm Revenue Per Employee/CPI) (-1)	-0.0373		0.0788	-0.4734
28.	DLog(Firm Revenue Per Employee/CPI) (-1)	0.1273		0.0893	1.4256
29.	GOOGLE	1.2152	***	0.3996	3.0407
30.	INTEL	-0.0177		0.2380	-0.0744
31.	INTUIT	0.0005		0.2009	0.0026
32.	LUCASFILM	-0.0874		0.2214	-0.3946
33.	PIXAR	1.2698	***	0.3684	3.4471
34.	Location (State) Indicators	YES			
35.	Constant	YES			
	R-Squared	**0.8682**			
	Observations	**264,148**			

Note: (1) *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level.
(2) Observations are restricted to cases in which there was no change in employer in the previous two years.
(3) Standard Errors adjusted for clustering at employer-year level.
(4) The variables affected by firm exclusion have not been adjusted to reflect this modification.
Average age
Average Log(Number of New Hires In the Firm/Number of Employees(-1)) in 2005
Log(Total Number of Transfers Among Defendants)
Log(Total Number of New Hires)
(5) For regression results with unclustered standard errors, see Appendix 3.

Source: Prof. Leamer's backup data and materials.

Exhibit 15B
Replication of Prof. Leamer's Exhibit 3 Regression Model
Excluding Adobe

Employer	Year	Actual Total Compensation	Prof. Leamer's Estimated Compensation	Difference	Percent
APPLE	2005	$ 369,273,700	$ 383,266,401	$ 13,992,701	3.8%
APPLE	2006	$ 636,040,122	$ 696,123,140	$ 60,083,019	9.4%
APPLE	2007	$ 918,893,544	$ 1,048,085,560	$ 129,192,016	14.1%
APPLE	2008	$ 1,043,177,124	$ 1,221,704,473	$ 178,527,350	17.1%
APPLE	2009	$ 1,234,984,547	$ 1,425,325,574	$ 190,341,026	15.4%
		$ 4,202,369,036	$ 4,774,505,146	$ 572,136,112	13.6%
GOOGLE	2005	$ [redacted]			
GOOGLE	2006	$ [redacted]			
GOOGLE	2007	$ [redacted]			
GOOGLE	2008	$ [redacted]			
GOOGLE	2009	$ [redacted]			
		$ [redacted]			
INTEL	2005	[redacted]			
INTEL	2006	[redacted]			
INTEL	2007	[redacted]			
INTEL	2008	[redacted]			
INTEL	2009	[redacted]			
		[redacted]			
INTUIT	2007	$ 229,028,691	$ 237,710,533	$ 8,681,842	3.8%
INTUIT	2008	$ 372,407,115	$ 404,657,343	$ 32,250,228	8.7%
INTUIT	2009	$ 358,550,249	$ 383,721,118	$ 25,170,869	7.0%
		$ 959,986,055	$ 1,026,088,994	$ 66,102,939	6.9%
LUCASFILM	2005	$ 11,624,754	$ 13,702,321	$ 2,077,566	17.9%
LUCASFILM	2006	$ 26,377,783	$ 31,780,800	$ 5,403,017	20.5%
LUCASFILM	2007	$ 36,538,532	$ 45,166,899	$ 8,628,367	23.6%
LUCASFILM	2008	$ 43,695,875	$ 54,294,255	$ 10,598,380	24.3%
LUCASFILM	2009	$ 44,199,347	$ 53,715,362	$ 9,516,015	21.5%
		$ 162,436,291	$ 198,659,637	$ 36,223,346	22.3%
PIXAR	2005	$ 84,781,591	$ 97,678,845	$ 12,897,254	15.2%
PIXAR	2006	$ 107,426,071	$ 127,024,451	$ 19,598,380	18.2%
PIXAR	2007	$ 111,532,132	$ 131,313,417	$ 19,781,285	17.7%
PIXAR	2008	$ 111,031,111	$ 132,992,003	$ 21,960,892	19.8%
PIXAR	2009	$ 99,895,008	$ 114,912,020	$ 15,017,012	15.0%
		$ 514,665,913	$ 603,920,736	$ 89,254,823	17.3%
	TOTAL	**$ 31,089,226,911**	**$ 34,244,825,497**	**$ 3,155,598,588**	**10.2%**

Note:
(1) Percent is calculated as the difference divided by actual total compensation.

Source: Prof. Leamer's backup data and materials.

Exhibit 15C
Replication of Prof. Leamer's Exhibit 3 Regression Model
Excluding Adobe

	ADOBE		APPLE		GOOGLE	INTEL	INTUIT		LUCASFILM		PIXAR		TOTAL	
2005	-	-	$ 13,992,701	3.8%	$ [redacted]	[redacted]	-	-	$ 2,077,566	17.9%	$ 12,897,254	15.2%	$ 149,441,227	4.2%
2006	-	-	$ 60,083,019	9.4%	$ [redacted]	[redacted]	-	-	$ 5,403,017	20.5%	$ 19,598,380	18.2%	$ 438,345,610	8.0%
2007	-	-	$ 129,192,016	14.1%	$ [redacted]	[redacted]	$ 8,681,842	3.8%	$ 8,628,367	23.6%	$ 19,781,285	17.7%	$ 702,293,977	10.6%
2008	-	-	$ 178,527,350	17.1%	$ [redacted]	[redacted]	$ 32,250,228	8.7%	$ 10,598,380	24.3%	$ 21,960,892	19.8%	$ 908,594,673	13.0%
2009	-	-	$ 190,341,026	15.4%	$ [redacted]	[redacted]	$ 25,170,869	7.0%	$ 9,516,015	21.5%	$ 15,017,012	15.0%	$ 956,923,101	11.4%
	-	**-**	**$ 572,136,112**	**13.6%**	**$** [redacted]	[redacted]	**$ 66,102,939**	**6.9%**	**$ 36,223,346**	**22.3%**	**$ 89,254,823**	**17.3%**	**$ 3,155,598,588**	**10.2%**

See Exhibit 15B
Source: Prof. Leamer's backup data and materials.

Exhibit 16A
Replication of Prof. Leamer's Exhibit 3 Regression Model
Excluding Adobe

Estimated Undercompensation: $3,847,335,924
Adobe Undercompensation: -
Observation: Employee ID record in December of each year
Dependant Variable: Log(Total Annual Compensation/CPI)

	Variable	Estimate [a]		Robust St. Error [b]	T-Value [c] = [a] / [b]
1.	Conduct * (Log Age - Log(38))	1.1776	***	0.4551	2.5874
2.	Conduct * (Log(Age)^2 - Log(38)^2)	-0.1589	***	0.0599	-2.6501
3.	Conduct * (Log(Number of New Hires In the Firm/Number of Employees(-1)) - 2005 Average)	-0.0204		0.0331	-0.6159
4.	Conduct	-0.0762		0.0536	-1.4211
5.	APPLE * Log(Total Annual Compensation/CPI) (-1)	0.7337	***	0.0581	12.6235
6.	GOOGLE * Log(Total Annual Compensation/CPI) (-1)	0.4383	***	0.0727	6.0253
7.	INTEL * Log(Total Annual Compensation/CPI) (-1)	0.6729	***	0.0330	20.3733
8.	INTUIT * Log(Total Annual Compensation/CPI) (-1)	0.6578	***	0.0467	14.0980
9.	LUCASFILM * Log(Total Annual Compensation/CPI) (-1)	0.9159	***	0.0914	10.0213
10.	PIXAR * Log(Total Annual Compensation/CPI) (-1)	0.6649	***	0.1468	4.5284
11.	APPLE * Log(Total Annual Compensation/CPI) (-2)	0.2389	***	0.0409	5.8377
12.	GOOGLE * Log(Total Annual Compensation/CPI) (-2)	0.3628	***	0.0498	7.2838
13.	INTEL * Log(Total Annual Compensation/CPI) (-2)	0.2924	***	0.0292	9.9974
14.	INTUIT * Log(Total Annual Compensation/CPI) (-2)	0.2998	***	0.0425	7.0527
15.	LUCASFILM * Log(Total Annual Compensation/CPI) (-2)	0.0553		0.0968	0.5712
16.	PIXAR * Log(Total Annual Compensation/CPI) (-2)	0.0952		0.1171	0.8132
17.	Log(Age) (Years)	-0.6826	***	0.2068	-3.3003
18.	Log(Age)^2	0.0824	***	0.0264	3.1223
19.	Log(Company Tenure) (Months)	0.0256		0.0474	0.5390
20.	Log(Company Tenure)^2	-0.0020		0.0049	-0.4081
21.	Male	0.0062	***	0.0026	2.3499
22.	DLog(Information Sector Employment in San-Jose)	2.4410	***	0.6245	3.9088
23.	Log(Total Number of Transfers Among Defendants)	0.0990	**	0.0479	2.0682
24.	Year (trend)	-0.0079		0.0129	-0.6132
25.	Log(Number of New Hires In the Firm/Number of Employees(-1))	0.0340		0.0296	1.1482
26.	Log(Total Number of New Hires)	-0.3955	***	0.1054	-3.7532
27.	Log(Firm Revenue Per Employee/CPI) (-1)	-0.0533		0.0862	-0.6187
28.	DLog(Firm Revenue Per Employee/CPI) (-1)	0.1107		0.0942	1.1753
29.	GOOGLE	1.2226	***	0.4002	3.0552
30.	INTEL	-0.0261		0.2357	-0.1109
31.	INTUIT	-0.0179		0.2036	-0.0881
32.	LUCASFILM	-0.0480		0.2277	-0.2109
33.	PIXAR	1.2995	***	0.3619	3.5905
34.	Location (State) Indicators	YES			
35.	Constant	YES			
	R-Squared	**0.8677**			
	Observations	**264,148**			

Note: (1) *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level.
(2) Observations are restricted to cases in which there was no change in employer in the previous two years.
(3) Standard Errors adjusted for clustering at employer-year level.
(4) The variables affected by firm exclusion have been adjusted to reflect this modification:
- Average age
- Average Log(Number of New Hires In the Firm/Number of Employees(-1)) in 2005 (equal to -1.89 when excluding Adobe)
- Log(Total Number of Transfers Among Defendants)
- Log(Total Number of New Hires)

(5) For regression results with unclustered standard errors, see Appendix 4.

Source: Prof. Leamer's backup data and materials.

Exhibit 16B
Replication of Prof. Leamer's Exhibit 3 Regression Model
Excluding Adobe

Employer	Year	Actual Total Compensation	Prof. Leamer's Estimated Compensation	Difference	Percent
APPLE	2005	$ 369,273,700	$ 385,485,486	$ 16,211,786	4.4%
APPLE	2006	$ 636,040,122	$ 706,484,276	$ 70,444,156	11.1%
APPLE	2007	$ 918,893,544	$ 1,069,718,211	$ 150,824,666	16.4%
APPLE	2008	$ 1,043,177,124	$ 1,251,155,909	$ 207,978,785	19.9%
APPLE	2009	$ 1,234,984,547	$ 1,457,153,374	$ 222,168,827	18.0%
		$ 4,202,369,036	$ 4,869,997,257	$ 667,628,221	15.9%
GOOGLE	2005	$ [redacted]			
GOOGLE	2006	$			
GOOGLE	2007	$			
GOOGLE	2008	$			
GOOGLE	2009	$			
		$			
INTEL	2005	[redacted]			
INTEL	2006				
INTEL	2007				
INTEL	2008				
INTEL	2009				
INTUIT	2007	$ 229,028,691	$ 239,083,821	$ 10,055,130	4.4%
INTUIT	2008	$ 372,407,115	$ 410,573,016	$ 38,165,901	10.2%
INTUIT	2009	$ 358,550,249	$ 388,677,632	$ 30,127,384	8.4%
		$ 959,986,055	$ 1,038,334,470	$ 78,348,415	8.2%
LUCASFILM	2005	$ 11,624,754	$ 14,059,993	$ 2,435,239	20.9%
LUCASFILM	2006	$ 26,377,783	$ 32,488,216	$ 6,110,433	23.2%
LUCASFILM	2007	$ 36,538,532	$ 46,286,485	$ 9,747,953	26.7%
LUCASFILM	2008	$ 43,695,875	$ 55,798,074	$ 12,102,200	27.7%
LUCASFILM	2009	$ 44,199,347	$ 55,079,124	$ 10,879,777	24.6%
		$ 162,436,291	$ 203,711,893	$ 41,275,601	25.4%
PIXAR	2005	$ 84,781,591	$ 100,017,382	$ 15,235,791	18.0%
PIXAR	2006	$ 107,426,071	$ 130,333,711	$ 22,907,639	21.3%
PIXAR	2007	$ 111,532,132	$ 134,925,030	$ 23,392,898	21.0%
PIXAR	2008	$ 111,031,111	$ 136,677,117	$ 25,646,006	23.1%
PIXAR	2009	$ 99,895,008	$ 117,374,435	$ 17,479,426	17.5%
		$ 514,665,913	$ 619,327,674	$ 104,661,761	20.3%
	TOTAL	**$ 31,089,226,911**	**$ 34,936,562,836**	**$ 3,847,335,924**	**12.4%**

Note:
(1) Percent is calculated as the difference divided by actual total compensation.

Source: Prof. Leamer's backup data and materials.

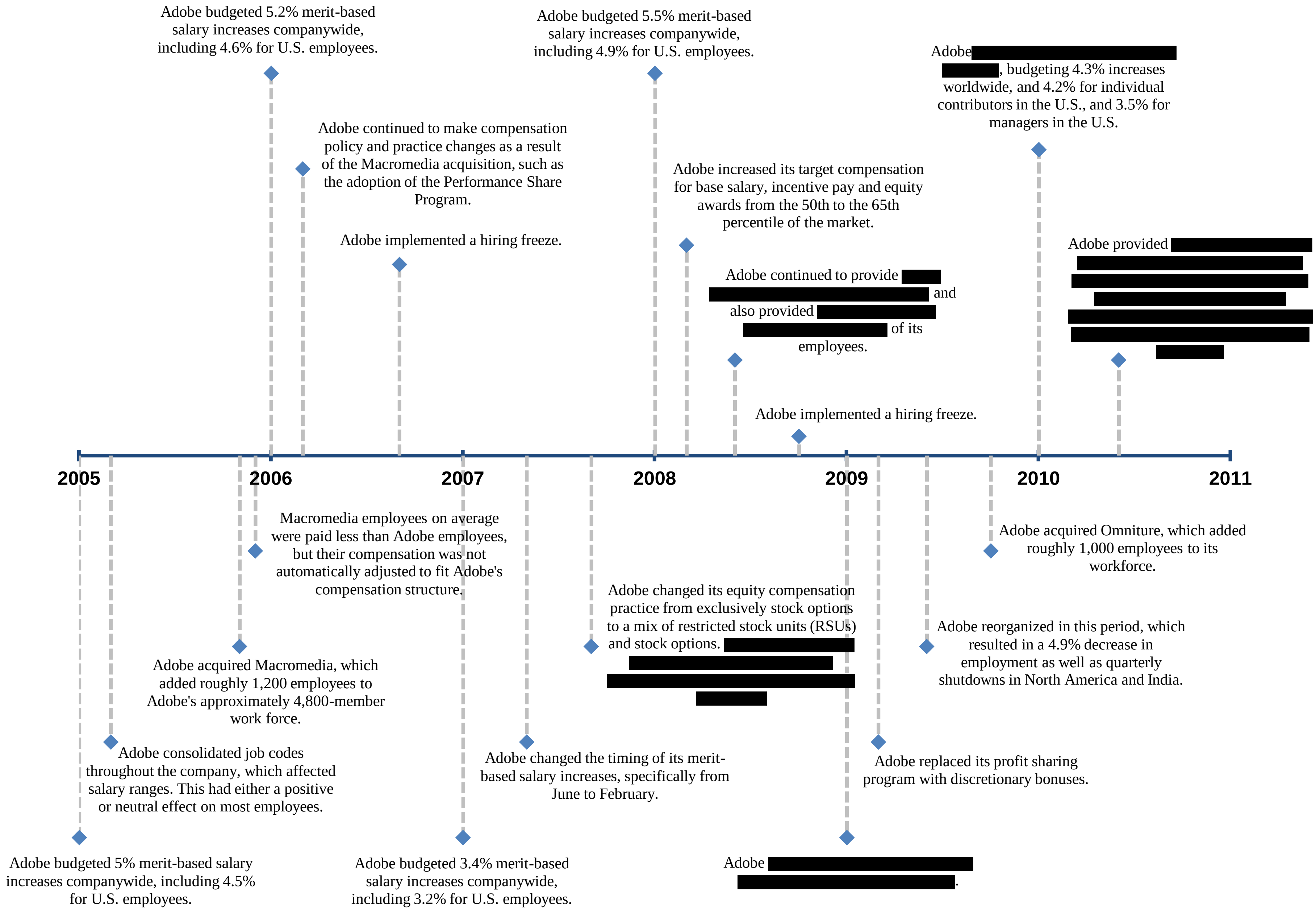
Exhibit 16C
Replication of Prof. Leamer's Exhibit 3 Regression Model
Excluding Adobe

	ADOBE		APPLE		GOOGLE	INTEL	INTUIT		LUCASFILM		PIXAR		TOTAL	
2005	-	-	$ 16,211,786	4.4%	[redacted]	[redacted]	-	-	$ 2,435,239	20.9%	$ 15,235,791	18.0%	$ 173,166,372	4.8%
2006	-	-	$ 70,444,156	11.1%	[redacted]	[redacted]	-	-	$ 6,110,433	23.2%	$ 22,907,639	21.3%	$ 529,448,760	9.6%
2007	-	-	$ 150,824,666	16.4%	[redacted]	[redacted]	$ 10,055,130	4.4%	$ 9,747,953	26.7%	$ 23,392,898	21.0%	$ 854,363,588	12.9%
2008	-	-	$ 207,978,785	19.9%	[redacted]	[redacted]	$ 38,165,901	10.2%	$ 12,102,200	27.7%	$ 25,646,006	23.1%	$ 1,115,618,487	16.0%
2009	-	-	$ 222,168,827	18.0%	[redacted]	[redacted]	$ 30,127,384	8.4%	$ 10,879,777	24.6%	$ 17,479,426	17.5%	$ 1,174,738,718	14.0%
	-	**-**	**$ 667,628,221**	**15.9%**	[redacted]	[redacted]	**$ 78,348,415**	**8.2%**	**$ 41,275,601**	**25.4%**	**$ 104,661,761**	**20.3%**	**$ 3,847,335,924**	**10.2%**

See Exhibit 16B.
Source: Prof. Leamer's backup data and materials.

Appendix 1
Adobe - Employee Compensation

Highly Confidential, Attorneys Eyes Only



Source: See paragraph 59.

Appendix 2
Replication of Prof. Leamer's Exhibit 3 Regression Model
Unclustered Standard Errors

Estimated Undercompensation: $3,065,184,305
Adobe Undercompensation: $175,376,304
Observation: Employee ID record in December of each year
Dependant Variable: Log(Total Annual Compensation/CPI)

	Variable	Estimate [a]		St. Error [b]	T-Value [c] = [a] / [b]
1.	Conduct * (Log Age - Log(38))	1.1774	***	0.1045	11.2686
2.	Conduct * (Log(Age)^2 - Log(38)^2)	-0.1590	***	0.0142	-11.1894
3.	Conduct * (Log(Number of New Hires In the Firm/Number of Employees(-1)) + 1.92)	-0.0170	***	0.0012	-14.7160
4.	Conduct	-0.0559	***	0.0017	-32.7948
5.	ADOBE * Log(Total Annual Compensation/CPI) (-1)	0.6766	***	0.0074	91.3587
6.	APPLE * Log(Total Annual Compensation/CPI) (-1)	0.7288	***	0.0037	196.7834
7.	GOOGLE * Log(Total Annual Compensation/CPI) (-1)	0.4329	***	0.0022	194.3166
8.	INTEL * Log(Total Annual Compensation/CPI) (-1)	0.6819	***	0.0030	224.5316
9.	INTUIT * Log(Total Annual Compensation/CPI) (-1)	0.6524	***	0.0090	72.7760
10.	LUCASFILM * Log(Total Annual Compensation/CPI) (-1)	0.9332	***	0.0526	17.7540
11.	PIXAR * Log(Total Annual Compensation/CPI) (-1)	0.6740	***	0.0087	77.4714
12.	ADOBE * Log(Total Annual Compensation/CPI) (-2)	0.3037	***	0.0073	41.8148
13.	APPLE * Log(Total Annual Compensation/CPI) (-2)	0.2457	***	0.0039	63.4696
14.	GOOGLE * Log(Total Annual Compensation/CPI) (-2)	0.3687	***	0.0022	168.9056
15.	INTEL * Log(Total Annual Compensation/CPI) (-2)	0.2840	***	0.0029	96.5466
16.	INTUIT * Log(Total Annual Compensation/CPI) (-2)	0.3048	***	0.0087	35.0852
17.	LUCASFILM * Log(Total Annual Compensation/CPI) (-2)	0.0428		0.0524	0.8157
18.	PIXAR * Log(Total Annual Compensation/CPI) (-2)	0.0941	***	0.0080	11.7713
19.	Log(Age) (Years)	-0.6561	***	0.0616	-10.6445
20.	Log(Age)^2	0.0790	***	0.0084	9.4305
21.	Log(Company Tenure) (Months)	0.0177	***	0.0070	2.5208
22.	Log(Company Tenure)^2	-0.0012		0.0008	-1.5611
23.	Male	0.0056	***	0.0009	6.5675
24.	DLog(Information Sector Employment in San-Jose)	1.8770	***	0.0250	74.9374
25.	Log(Total Number of Transfers Among Defendants)	0.1032	***	0.0017	60.2020
26.	Year (trend)	-0.0042	***	0.0004	-9.9182
27.	Log(Number of New Hires In the Firm/Number of Employees(-1))	0.0263	***	0.0014	18.8437
28.	Log(Total Number of New Hires)	-0.3350	***	0.0035	-96.0550
29.	Log(Firm Revenue Per Employee/CPI) (-1)	-0.0475	***	0.0043	-10.9572
30.	DLog(Firm Revenue Per Employee/CPI) (-1)	0.1364	***	0.0038	36.2599
31.	APPLE	0.1252	***	0.0254	4.9381
32.	GOOGLE	1.3597	***	0.0268	50.7544
33.	INTEL	0.1032	***	0.0227	4.5481
34.	INTUIT	0.1290	***	0.0349	3.6980
35.	LUCASFILM	0.0563		0.0867	0.6488
36.	PIXAR	1.3792	***	0.0495	27.8446
37.	Location (State) Indicators	YES			
38.	Constant	YES			
	R-Squared	**0.8685**			
	Observations	**277,119**			

Note: (1) *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level.
(2) Observations are restricted to cases in which there was no change in employer in the previous two years.

Source: Prof. Leamer's backup data and materials.

Appendix 3

Replication of Prof. Leamer's Exhibit 3 Regression Model

Excluding Adobe

Unclustered Standard Errors

Estimated Undercompensation: $3,155,598,588
Adobe Undercompensation: -
Observation: Employee ID record in December of each year
Dependant Variable: Log(Total Annual Compensation/CPI)

Variable	Estimate		St. Error	T-Value
	[a]		[b]	[c] = [a] / [b]
1. Conduct * (Log Age - Log(38))	1.1678	***	0.1069	10.9278
2. Conduct * (Log(Age)^2 - Log(38)^2)	-0.1576	***	0.0145	-10.8432
3. Conduct * (Log(Number of New Hires In the Firm/Number of Employees(-1)) + 1.92)	-0.0212	***	0.0012	-17.6748
4. Conduct	-0.0635	***	0.0018	-35.9999
5. APPLE * Log(Total Annual Compensation/CPI) (-1)	0.7306	***	0.0037	196.5884
6. GOOGLE * Log(Total Annual Compensation/CPI) (-1)	0.4323	***	0.0022	193.6026
7. INTEL * Log(Total Annual Compensation/CPI) (-1)	0.6817	***	0.0031	223.3835
8. INTUIT * Log(Total Annual Compensation/CPI) (-1)	0.6570	***	0.0090	73.0274
9. LUCASFILM * Log(Total Annual Compensation/CPI) (-1)	0.9185	***	0.0526	17.4531
10. PIXAR * Log(Total Annual Compensation/CPI) (-1)	0.6714	***	0.0087	77.0348
11. APPLE * Log(Total Annual Compensation/CPI) (-2)	0.2418	***	0.0039	62.2667
12. GOOGLE * Log(Total Annual Compensation/CPI) (-2)	0.3696	***	0.0022	169.0007
13. INTEL * Log(Total Annual Compensation/CPI) (-2)	0.2841	***	0.0030	96.1044
14. INTUIT * Log(Total Annual Compensation/CPI) (-2)	0.3006	***	0.0087	34.4759
15. LUCASFILM * Log(Total Annual Compensation/CPI) (-2)	0.0584		0.0525	1.1130
16. PIXAR * Log(Total Annual Compensation/CPI) (-2)	0.0949	***	0.0080	11.8630
17. Log(Age) (Years)	-0.6886	***	0.0631	-10.9174
18. Log(Age)^2	0.0832	***	0.0086	9.7103
19. Log(Company Tenure) (Months)	0.0290	***	0.0072	4.0122
20. Log(Company Tenure)^2	-0.0024	***	0.0008	-2.9467
21. Male	0.0062	***	0.0009	7.0308
22. DLog(Information Sector Employment in San-Jose)	1.9402	***	0.0257	75.5644
23. Log(Total Number of Transfers Among Defendants)	0.1084	***	0.0018	60.3525
24. Year (trend)	-0.0040	***	0.0004	-8.8749
25. Log(Number of New Hires In the Firm/Number of Employees(-1))	0.0342	***	0.0015	23.2606
26. Log(Total Number of New Hires)	-0.3632	***	0.0036	-100.7631
27. Log(Firm Revenue Per Employee/CPI) (-1)	-0.0373	***	0.0047	-7.9519
28. DLog(Firm Revenue Per Employee/CPI) (-1)	0.1273	***	0.0042	30.4114
29. GOOGLE	1.2152	***	0.0204	59.6692
30. INTEL	-0.0177		0.0148	-1.1937
31. INTUIT	0.0005		0.0304	0.0172
32. LUCASFILM	-0.0874		0.0851	-1.0273
33. PIXAR	1.2698	***	0.0465	27.3002
34. Location (State) Indicators	YES			
35. Constant	YES			
R-Squared	**0.8682**			
Observations	**264,148**			

Note: (1) *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level.
(2) Observations are restricted to cases in which there was no change in employer in the previous two years.
(3) The variables affected by firm exclusion have not been adjusted to reflect this modification.
Average age
Average Log(Number of New Hires In the Firm/Number of Employees(-1)) in 2005
Log(Total Number of Transfers Among Defendants)
Log(Total Number of New Hires)

Source: Prof. Leamer's backup data and materials.

Appendix 4
Replication of Prof. Leamer's Exhibit 3 Regression Model
Excluding Adobe
Unclustered Standard Errors

Estimated Undercompensation: $3,847,335,924
Adobe Undercompensation: -
Observation: Employee ID record in December of each year
Dependant Variable: Log(Total Annual Compensation/CPI)

	Variable	Estimate [a]		St. Error [b]	T-Value [c] = [a] / [b]
1.	Conduct * (Log Age - Log(38))	1.1776	***	0.1071	11.0005
2.	Conduct * (Log(Age)^2 - Log(38)^2)	-0.1589	***	0.0146	-10.9101
3.	Conduct * (Log(Number of New Hires In the Firm/Number of Employees(-1)) + 1.92)	-0.0204	***	0.0012	-16.9248
4.	Conduct	-0.0762	***	0.0020	-38.9132
5.	APPLE * Log(Total Annual Compensation/CPI) (-1)	0.7337	***	0.0037	197.0733
6.	GOOGLE * Log(Total Annual Compensation/CPI) (-1)	0.4383	***	0.0022	195.6690
7.	INTEL * Log(Total Annual Compensation/CPI) (-1)	0.6729	***	0.0031	216.3866
8.	INTUIT * Log(Total Annual Compensation/CPI) (-1)	0.6578	***	0.0090	72.9385
9.	LUCASFILM * Log(Total Annual Compensation/CPI) (-1)	0.9159	***	0.0527	17.3727
10.	PIXAR * Log(Total Annual Compensation/CPI) (-1)	0.6649	***	0.0087	76.1515
11.	APPLE * Log(Total Annual Compensation/CPI) (-2)	0.2389	***	0.0039	61.4242
12.	GOOGLE * Log(Total Annual Compensation/CPI) (-2)	0.3628	***	0.0022	165.7178
13.	INTEL * Log(Total Annual Compensation/CPI) (-2)	0.2924	***	0.0030	96.9581
14.	INTUIT * Log(Total Annual Compensation/CPI) (-2)	0.2998	***	0.0087	34.3052
15.	LUCASFILM * Log(Total Annual Compensation/CPI) (-2)	0.0553		0.0526	1.0522
16.	PIXAR * Log(Total Annual Compensation/CPI) (-2)	0.0952	***	0.0080	11.8805
17.	Log(Age) (Years)	-0.6826	***	0.0632	-10.8038
18.	Log(Age)^2	0.0824	***	0.0086	9.5970
19.	Log(Company Tenure) (Months)	0.0256	***	0.0072	3.5262
20.	Log(Company Tenure)^2	-0.0020	***	0.0008	-2.4922
21.	Male	0.0062	***	0.0009	6.9986
22.	DLog(Information Sector Employment in San-Jose)	2.4410	***	0.0293	83.3051
23.	Log(Total Number of Transfers Among Defendants)	0.0990	***	0.0018	53.8212
24.	Year (trend)	-0.0079	***	0.0006	-14.1245
25.	Log(Number of New Hires In the Firm/Number of Employees(-1))	0.0340	***	0.0015	22.8772
26.	Log(Total Number of New Hires)	-0.3955	***	0.0042	-93.1111
27.	Log(Firm Revenue Per Employee/CPI) (-1)	-0.0533	***	0.0047	-11.2686
28.	DLog(Firm Revenue Per Employee/CPI) (-1)	0.1107	***	0.0042	26.5487
29.	GOOGLE	1.2226	***	0.0204	59.9332
30.	INTEL	-0.0261	*	0.0149	-1.7597
31.	INTUIT	-0.0179		0.0304	-0.5894
32.	LUCASFILM	-0.0480		0.0852	-0.5638
33.	PIXAR	1.2995	***	0.0466	27.8908
34.	Location (State) Indicators	YES			
35.	Constant	YES			
	R-Squared	**0.8677**			
	Observations	**264,148**			

Note: (1) *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level.
(2) Observations are restricted to cases in which there was no change in employer in the previous two years.
(3) The variables affected by firm exclusion have been adjusted to reflect this modification:
Average age
Average Log(Number of New Hires In the Firm/Number of Employees(-1)) in 2005 (equal to -1.89 when excluding Adobe)
Log(Total Number of Transfers Among Defendants)
Log(Total Number of New Hires)

Source: Prof. Leamer's backup data and materials.

Appendix 5
Adobe Job Title Categorization

Category	Category Share	Title	Employee Months
[A]	[B]	[C]	[D]
Graphic Designer	0.4%	[redacted]	101
			17
			592
			276
IT	15.5%		946
			18
			39
			49
			253
			77
			31
			675
			352
			988
			55
			123
			6
			9
			44
			18
			173
			18
			143
			27
			1,505
			4,297
			6,341
			1,883
			67
			69
			368
			650
			806
			22
			598
			385
			325
			11
			29
			57
			28
			88
			33
			18
			10
			163
			2,747
			1,960
			1,713
			4
			8
			66
			300
			221
			18
			10
			456
			249
			202
			409
			1
			8
			42
			17
			32
			1,241
			205
			226

Appendix 5
Adobe Job Title Categorization

Category	Category Share	Title	Employee Months
[A]	[B]	[C]	[D]
		[redacted]	6
		[redacted]	63
		[redacted]	60
		[redacted]	29
		[redacted]	10
		[redacted]	37
		[redacted]	28
		[redacted]	35
		[redacted]	123
		[redacted]	27
		[redacted]	1,140
		[redacted]	560
		[redacted]	5
		[redacted]	2
		[redacted]	405
		[redacted]	715
		[redacted]	1,377
		[redacted]	18
		[redacted]	1,057
		[redacted]	311
		[redacted]	296
		[redacted]	3,669
		[redacted]	81
		[redacted]	167
		[redacted]	86
		[redacted]	29
		[redacted]	5
		[redacted]	155
Software and Web Development	80.5%	[redacted]	29
		[redacted]	227
		[redacted]	1,181
		[redacted]	164
		[redacted]	9
		[redacted]	14
		[redacted]	114
		[redacted]	1,101
		[redacted]	595
		[redacted]	140
		[redacted]	23,946
		[redacted]	25,131
		[redacted]	19
		[redacted]	364
		[redacted]	790
		[redacted]	513
		[redacted]	42
		[redacted]	234
		[redacted]	403
		[redacted]	3,630
		[redacted]	48
		[redacted]	71
		[redacted]	359
		[redacted]	1,150
		[redacted]	260
		[redacted]	8
		[redacted]	36
		[redacted]	64
		[redacted]	4,373
		[redacted]	2,492
		[redacted]	382
		[redacted]	241
		[redacted]	213
		[redacted]	96
		[redacted]	31
		[redacted]	13
		[redacted]	2
		[redacted]	1,352
		[redacted]	3,688
		[redacted]	6,559
		[redacted]	6,719

Appendix 5
Adobe Job Title Categorization

Category	Category Share	Title	Employee Months
[A]	[B]	[C]	[D]
		[redacted]	1,134
		[redacted]	2,691
		[redacted]	2,958
		[redacted]	1,149
		[redacted]	54
		[redacted]	13
		[redacted]	30
		[redacted]	58
		[redacted]	1,284
		[redacted]	11,588
		[redacted]	247
		[redacted]	38
		[redacted]	4
		[redacted]	85
		[redacted]	78
		[redacted]	82
		[redacted]	4,626
		[redacted]	3,593
		[redacted]	6
		[redacted]	141
		[redacted]	10
		[redacted]	16
		[redacted]	2,663
		[redacted]	3,907
		[redacted]	6,002
		[redacted]	3,323
		[redacted]	6
		[redacted]	3
		[redacted]	3
		[redacted]	62
		[redacted]	305
		[redacted]	5,760
		[redacted]	25,354
		[redacted]	141
		[redacted]	20
		[redacted]	1,128
		[redacted]	603
		[redacted]	316
		[redacted]	6,274
		[redacted]	2,394
		[redacted]	395
		[redacted]	4
		[redacted]	199
		[redacted]	1,325
		[redacted]	11,939
		[redacted]	17,291
		[redacted]	5,338
		[redacted]	314
		[redacted]	521
		[redacted]	254
		[redacted]	216
		[redacted]	18
		[redacted]	21
		[redacted]	97
		[redacted]	826
		[redacted]	1,868
		[redacted]	1,194
		[redacted]	110
		[redacted]	225
		[redacted]	71
		[redacted]	1,141
		[redacted]	20
		[redacted]	12
		[redacted]	260
		[redacted]	334
		[redacted]	302
		[redacted]	5
		[redacted]	11
		[redacted]	188

Appendix 5
Adobe Job Title Categorization

Category	Category Share	Title	Employee Months
[A]	[B]	[C]	[D]
		[redacted]	305
			115
			8
			29
			41
			285
			152
Technical Writer	2.1%		44
			75
			333
			236
			278
			57
			2,711
			436
			88
			5
			16
			109
			57
			576
			730
User Support	1.3%		25
			1
			199
			5
			280
			7
			159
			7
			15
			1,387
			1,093
			418
Not Applicable	0.3%		109
			309
			46
			162
			102
			16

Notes and Sources:

[A]: Each Adobe job title has been classified into a broader category based on title and job description. Categories include Graphic Designer, IT, Software and Web Development, Technical Writer, and User Support. Senior Vice Presidents are not allocated to a particular group.

[B]: Percentage of employee months associated with each job category. All months for which Adobe employment data are available are included.

[C]: Adobe job titles associated with employees marked by Dr. Leamer as part of the technical group (e.g. with an "rd_class_flag" equal to 1).

[D]: Values are the number of employee months for each job title. Each month a respective job title appears in the Adobe employment data is counted as 1 employee month.